Municipal Entrepreneurialism Using Place-Based Natural Assets: Lessons from Northern British Columbia

by

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B.Comm. (Managing for Sustainability), McGill University, 2019

Project Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Resource Management (Planning)

in the
School of Resource and Environmental Management
Faculty of Environment

SIMON FRASER UNIVERSITY
Summer 2024

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Acknowledgements

I would like to acknowledge that this work would not have been possible without the trust of my supervisor, as well as the School of Resource and Environmental Management. Thank you, Sean, for your support, advice, and great patience throughout the research process. Thank you, Greg and Laura, as well, for contributing to making this project possible and making me a better researcher. Thank you for all the professors I met, had discussions with and who challenged me to think differently. I am sincerely grateful for the incredible learning experience which have been the last 3 years or so.

I would also like to acknowledge that, without the support of the communities and the people taking part in this research project, this work would have been much less interesting, not as fun. Thank you to the people who were generous in sharing their experience with the research team and making this project more fulfilling and complete. Thank you as well to my colleagues and friends from SFU for your challenges, hard fought arguments, collaborations, as well as listening and responding to my many comments and questions. This work has certainly been influenced by those connections.

Merci à mes amis simplement pour être là.

Finalement, je souhaite aussi remercier mes parents, ma famille, ainsi que ma partenaire, Mélanie, pour votre éternel support. Vous avez toujours cru en moi et vous avez été la pièce de résistance qui a fait en sorte que j'ai été en mesure de terminer ce projet. Merci infiniment.

Abstract

Rural restructuring and municipal reforms have created pressures for rural and small town municipalities. Neoliberal-inspired economic and political change have caused local governments to search for innovative ways to support their operations and generate revenues. The use of municipal entrepreneurial initiatives, which have increased in British Columbia, Canada, is one such strategy. The purpose of this paper is to explore the use of natural resource-based municipal enterprises to support enhanced community resilience. Such bottom-up initiatives may allow municipalities to recover some autonomy in decision-making over local resource management and their overall development pathway. The relative proximity and abundance of natural resources in rural regions renders the use of place-based, natural assets for municipal entrepreneurial initiatives a considerable opportunity. Case studies from the Burns Lake Community Forest and the Dawson Creek Water Reclamation Project reveal that significant economic and climate adaptation benefits may be achieved from natural asset linked municipal enterprises.

Keywords: Local government; entrepreneurialism; British Columbia; rural reforms; natural assets; community forest; water reclamation; climate adaptation; resiliency

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"I think at the, at the provincial level, I think they need to, you know, generate social policy that supports municipalities to have those business-to-business relationships that are profitable and, an area-based tenure in a northern community is one of those ventures, is one of those opportunities. […] When I think in a small municipality where you have natural resources around I think creating legislation that supports that local municipality to take advantage of those, through natural resource activities, through some sort of business-to-business or some sort of share agreements, I think it's a way better way, because that municipality has the ability to dictate what their priorities are and they get the funds […]."

– Participant #3 – Village of Burns Lake

"Just be creative, because there lots of times there are solutions to many of the problems, sometimes you just have to ask or think about it, right, because, again, until I kinda said 'why can't we use that', you know the answer at first was 'no, we can't', 'well how would we?', and then you do a little bit of the, of the digging, right? Hum, and, every municipality has different challenges and different benefits, geographically or climate whatever it may be, sometime you just have to think outside the box."

– Participant #11 – City of Dawson Creek

Chapter 1. Introduction

Rural places have had a fundamental role to play in the development of Canada. However, in recent decades, rural places have been neglected by various senior governments as waves of neoliberal policies, as well as economic, social and political restructuring, hindered (and in many cases reversed) their previously achieved and supported sustainability and growth (Ryser et al., 2023b; Deslatte, Swann, and Feiock 2021; Herbert-Cheshire and Higgins 2004; Swann 2017; Markey et al., 2012). Nevertheless, 'peripheral' areas still remain a major contributor, if not the driving force, of the Canadian economy. The distribution of benefits from the natural resource sector is often driven by political interest and industrial capital focused on the development of metropolitan areas, as they aim to achieve efficiencies from a consolidation and geographic proximity of markets and services resulting in rural decline and unprecedented urban growth (Markey et al., 2012, p. 43).

Neoliberal reforms have ushered an era of senior government withdrawals and downloading of responsibilities onto local governments often without commensurate fiscal and jurisdictional authority and resources (Ryser et al., 2022; Blake, 2003; Martin et al., 2012; Gibson, 2019; Vesnic-Alujevic et al. 2019). Moreover, this shift in political ideology has resulted in a new paradigm of state involvement in economic development characterized by a reduction of direct support and an increased market-driven approach (Ryser et al., 2023b; Clark, 2018; Heisler & Markey, 2014; Ryser et al., 2019; Markey et al., 2012, p. 139). These changes have significantly affected rural regions as they lack in competitive assets compared to core regions fueled by natural resource extraction revenues (Markey et al., 2012, p. 177-179). These changes have indeed impacted the resiliency of these communities.

Resilience in this project is being addressed through the lens of rural and small town communities and of the people that govern, operate, and inhabit these places. The resiliency of communities can be defined as "hav[ing] the capacity to adapt to economic, ecological and social crisis" (Winther, 2017, p. 340; Cooper et al., 2011), while acknowledging that human agency, including individual and collective capacity to respond to these changes, is critical (Winther, 2017; Magis, 2010, p. 204). In this context, "communities inherently have the capacity to solve their own sustainability

problems but need to learn how to act and release their capacity" (Winther, 2017, p. 341). From a resilience perspective, one of the potential 'actions' for local governments facing neoliberal reforms may lie in municipal entrepreneurial endeavors (Ryser et al., 2023a).

In fact, neoliberal reforms have triggered a shift in the role of local governments from managerial to entrepreneurial, as senior governments aim to 'enable' local institutions to take their fate into their own hands (Ryser et al., 2023b; Hayter, 2000). In light of these reforms, higher levels of government have required municipalities to be more innovative and entrepreneurial in their approaches to governance and daily operations (Hallstrom, 2018). Entrepreneurial activities may be the driving force for future resilience of communities especially as it pertains to supporting independence, new pathways, and innovations (Dannestam, 2008; Skelcher, 2017). There are varying definitions of local government entrepreneurialism, but this research will largely examine entrepreneurialism within the context of innovative processes, regulatory action, and/or actual enterprise development to provide services or leverage economic conditions.

Although local government are a critical institution supporting the sustainability and identity of rural and small town places, they have been mostly excluded from research regarding the related transition towards entrepreneurialism (Ryser et al., 2023a). Therefore, this study focuses on addressing this gap in the literature, as well as the implications for rural resiliency considering economic restructuring in resource-dependent communities. Moreover, the specific component of the research project discussed in more detail throughout this paper focuses on the analysis of two case studies of municipal entrepreneurial initiatives in northern British Columbia that use place-based, natural assets. Overall, this research project aims to investigate four main questions:

- How have rural and small town local governments been affected by restructuring pressures and undergone the transition towards entrepreneurialism?
- How are rural and small town local governments approaching entrepreneurial solutions under the current regime of financial resources and jurisdictional authority?
- What factors support the initial development and operation of place-based municipal entrepreneurial initiatives using local natural assets, and what

challenges have rural and small town local governments in northern British Columbia faced through their development?

- Have these natural resource- and place-based municipal entrepreneurial initiatives strengthened the resiliency of municipal operations and the community in general?

Chapter 2. Literature Review

2.1. Local Governments

2.1.1. Local Governments in Canada

In Canada, local governments have limited powers, in that they are not recognized by the Canadian Constitution as separate governmental entities (Ryser et al., 2022; Douglas, 2005). Therefore, local governments have been said to be “creatures” of provincial authority (Ryser et al., 2023b; Tindal & Nobes Tindal, 2004) which, through legislation, prescribe ‘precise, limited, and limiting’ municipal jurisdictional powers (Ryser et al., 2023b; Isin, 1995, p. 81). Through time, local government responsibilities have been shaped by different social and economic development policies, including a dramatic shift from Keynesianism to neoliberalism in the early 1980s (Ryser et al., 2023b). The roles of local government entities have indeed changed quite dramatically and have become increasingly complex and wide ranging in BC, in particular (Government of British Columbia (BC Gov), 2023b).

2.1.2. Local Governments in British Columbia

In British Columbia, municipalities were first established in the late 19th century (BC Gov, 2023b). There are currently a total of 27 regional districts in British Columbia engulfing 161 municipalities (BC Gov, 2024; BC Gov, 2023b). These municipalities are responsible for ensuring local service provision and governance to approximately 89 percent of the province’s population (BC Gov, 2023b), while regional districts provide services to areas outside of municipal boundaries such as electoral areas and unincorporated communities (BC Gov, 2024). The population of these localities varies quite a lot from about 100 to over 630,000, while their size ranges from 63 hectares to over 8,500,000 hectares (BC Govb, 2023b). Local government’s responsibilities and powers are issued by provincial legislature. In BC, the Local Government Act, and the Community Charter, provide the authority and jurisdiction to most municipalities. (BC Gov, 2023b). For example, the Community Charter defines areas where municipalities have “the power to regulate, prohibit or impose requirements in relation to people, property and activities” and allow municipalities to collect property taxes and fees (BC

Govb, 2023b) Under this framework, local governments are viewed as “autonomous, responsible and accountable government directed by democratically elected councils” (BC Gov, 2023b).

Indeed, municipal governance is performed through elected councils which have the ability to set policies, adopt bylaws and guide vision for the development and sustainability of their community (BC Gov, 2023b). These powers may sometimes be constrained by the need to perform public consultation or obtain public approval, or even require the permission from the Inspector of Municipalities (BC Gov, 2023b) or by other provincial authorities prescribed in the legislation. Local elected officials are also required to sit on regional boards to foster, when possible, regional coordination of services (BC Gov, 2023b). Municipalities have the responsibility to manage community infrastructure assets over the entire lifecycle and may need to access provincial or federal grants, when possible, to remediate any repairs or upgrades (BC Gov, 2023a). In terms of service provision, municipalities, through their “corporate” or “natural person” powers (BC Gov, 2019), generally have the broadest service authorities in Canada, and can choose to provide or not the services deemed necessary or beneficial to the community (BC Gov, 2023b). Hence, through this broad scope of responsibilities and powers, as well as their inherent role as local democratic representation, local governments can be perceived as having a profound effect on the daily lives of the vast majority of the citizens in Canada and in British Columbia.

2.1.3. Role of Local Governments

Consequently, local government is perhaps the most important level of government in terms of daily interactions with citizens, but, unfortunately, may also be the most neglected (Tindal et al., 2017; Bish & Clemens, 2008). The importance of local governments comes from its proximity to the local people. They, and regional districts, are the immediate level of government for all citizens and that they provide most of the essential daily services. Further, they manage local community and economic planning and regulation. Through this level of proximity and authority, they also represent local concerns and aspirations of residents (Douglas, 2005). They are also the ones dealing with and responding to the immediate consequences of disasters and drastic changes, such as forest fires or economic downturns, while also having to cope with the long-term effects of such events (Birchall & Bonnet, 2019). Yet, local governments continue to

struggle with outdated financial and jurisdictional structures that limit their effectiveness in those core responsibilities (Ryser et al., 2022).

Indeed, local governments have had to adapt and evolve from being basic physical infrastructure providers to property, to providing economic and social development services to people (Ryser et al., 2023b) and more recently, needing to become more creative, innovative, and 'entrepreneurial' in their approach and responsibilities (Hallstrom, 2018). This shift follows the general trend identified by Hayter (2000) from managerialism to entrepreneurialism (Ryser et al., 2023b). Further, neoliberal policies fostered by several provincial governments in BC, Canada and worldwide since the 1980s have resulted in the downloading of more responsibilities onto local governments without receiving additional fiscal resources or jurisdictional authority (Ryser et al., 2022; Blake, 2003; Martin et al., 2012; Gibson 2019; Vesnic-Alujevic et al. 2019).

This research project specifically investigates the role of and impacts on local governments because, as mentioned above, they are managers of critical community infrastructure and have been assigned the important responsibilities for community land-use and economic development planning. Many resource-dependent, peripheral communities have placed-based assets which they can leverage to support a diversified and competitive economy. Unfortunately, they have been purposefully denied adequate support to be able to execute a transition to a place-based, diversified economy (Polèse 1999; Gunton, 2003). Hence, there is a need to investigate potential strategies, such as municipal entrepreneurship, that may push local government functions to support independence, resilience, new pathways, and innovations (Dannestam, 2008; Skelcher, 2017). Further, the 'staples trap', in which many communities of northern BC are now struggling to break from, complicate the situation for northern British Columbia's rural and small town communities.

2.2. Local Government and Rural Restructuring

2.2.1. Staples Theory and the Heartland-Hinterland Duality

In the early 1900s, Canadian historians including J.M.S Careless and economists including Harold Innis used the concept of the 'heartland-hinterland duality' to

demonstrate the spatial relationships that defines the political economy of Canada (Markey et al., 2012, p. 43). The relationship between core “heartland” regions and resource-producing peripheral “hinterlands” has been characterized as an urban-rural duality or divide by scholars of Canadian geography (Markey et al., 2012, p. 43; Evenden, 1978; Bradbury, 1987). The model shows that urban centres control the activities of resource development in larger, peripheral regions by exerting their structural (power) advantage (Markey et al., 2012, p. 43). This model, and its associated Staples Theory, is suitable to help explain the mechanisms involved in the rapid development of British Columbia’s northern regions, as well as the uniquely Canadian path of economic development of the region (Markey et al., 2012, p. 93; Drache, 1976; Mackintosh, 1978).

In 1933, Harold Innis published, *Problems of Staples Production in Canada*, in which he described the Canadian economy as being dependent on the export of raw natural resources to more advanced manufacturing economies (Markey et al., 2012, p. 93). His model explained that industries from more advanced nations require natural resources extracted in Canada and other resource-producing regions to feed their manufacturing plants and fuel their domestic growth (Innis, 1950). Concomitantly, Canada’s growth was fueled by the export of those externally needed resources; a scenario which Innis demonstrated had been repeated through the successive exploitation of various commodities (Markey et al., 2012, p. 93; Innis, 1933; Watkins, 1981, 1982). This relationship illustrates the rapid expansion and dispersion of population and the associated economic growth associated with the “boom” economies of the post-WWII period, fueled in BC, by the ‘dominant’ forest industry and later with contributions from the hydroelectric, oil and gas, and mining sectors (Markey et al., 2012, p. 93-94). Unfortunately, it also explains the vulnerability of the northern BC’s economy to external shocks (Barnes, 1996), and the downward spiral that followed the early 1980s recession (Markey et al., 2012, p. 108-109).

Indeed, a staples economy is characterized by market vulnerability (Markey et al., 2012, p. 109). Particularly, this vulnerability is, first, tied to the dependence on the demand and price set within a highly competitive and price elastic global commodities market (Markey et al., 2012, p. 94; Barnes, 1996), resulting in a volatile economy. In times of downturns, when prices and/or demand is low, plants shut down, workers are laid off and the regions are left helpless at the mercy of demand in those more advanced

nations and the broader global economy (Markey et al., 2012, p. 94). This system has led to the development of “turnkey” industries and flexible production, which allows companies to remain profitable through these swings in market demand and prices (Markey et al., 2012, p. 95). Although this strategy may be beneficial for individual corporations and senior government coffers, the communities which depend on those industries for fiscal revenues and employment are left to bare the more direct consequences of associated with economic downturns (Markey et al., 2012, p. 95, 129). Staples Theory also explains, through the concept of “truncated development”, why such vulnerabilities are not mitigated by, perhaps, a more diversified economy (Markey et al., 2012, p. 94; Innis, 1950; Davis & Hutton, 1989).

The dependence on staples as a vector of development for British Columbia left the province vulnerable to market demands, hindered local adaptive capacity and exacerbated tendencies towards environmental degradation (Markey et al., 2012, p. 104; Barnes & Hayter, 1997; Marchak et al., 1999). The WAC Bennet era of staples production created growth, but was accompanied by social and economic costs (Markey et al., 2012, p. 109). Albeit the social programs and coordinated approach, the narrow focus on extracting wealth from the resource bank and transporting it to export markets created the conditions for path dependency that would exacerbate the impacts of economic, political, and social restructuring that would occur following the early 1980s global recession (Markey et al., 2012, p. 115). Consequently, describing how this period of post-war growth unfolded contextualizes the application of Staples Theory in British Columbia and sets the stage for the restructuring that followed.

2.2.2. Rural Restructuring

The deep recession of the early 1980s was a central moment for industrial restructuring in the province (Markey et al., 2012, p. 142; Hayter & Barnes, 1997; Hayter, 2004). The effect of the recession and the subsequent economic restructuring, both associated to a legacy of staples production, caused many rounds of plant closures and layoffs (Markey et al., 2012, p. 131; Hutton, 2002). This period of industrial restructuring caused many resource towns to witness out-migration for the first time since World War II (Markey et al., 2012, p. 131; Hutton, 2002). State withdrawal of service provisions in rural areas further exacerbated these pressures (Markey et al., 2012, p. 32). These conditions caused an out-migration of working-age families, which had the long-term

effect of changing the population structure of northern BC (Markey et al., 2012, p. 142; Halseth et al., 2004).

During this period, there was considerable pressures on BC's resource economy, notably in the 'dominant' forestry sector, including layoffs, labour disputes and shifts in market demand which caused the industry and the state to look for solutions (Markey et al., 2012, p. 142; Hayter & Barnes, 1997; Hayter, 2004; Markey et al., 2012, p. 116; Hayter, 2000). Amongst these pressures was the rising competition from low-cost suppliers stemming from the advance of globalization (Markey et al., 2012, p. 116; Hayter, 2000). Concomitantly, the costs and limited malleability associated with the "Fordist" production regime, previously adequate for the staples economy of northern BC, needed to change to reflect the new requirements of a globalized market (Hayter, 2000). Further, this shift may have been inevitable to some extent given that further expansion of resource extraction became impractical and that the social and environmental costs of this type of mass extraction was being overly scrutinized and questioned (Markey et al., 2012, p. 142; Munro, 2004, p. 453). This resulted in an aggressive shift to a flexible style of production (Markey et al., 2012, p. 117; Hayter, 1997), which produced a reduction in overall employment, a consolidation of businesses, and an increase in technology and knowledge required by workers (Markey et al., 2012, p. 117; Hoekstra, 2002). This situation creates challenges for a region that has long been dependent on the large-scale employment provided by the resource sector and the relatively low level of skill and education required to work in such industries (Markey et al., 2012, p. 118-119; Leach & Wilson, 1999). This economic restructuring was further enhanced by the political restructuring and the uprising of neoliberalism in Canada and globally.

A good example of the effect of the neoliberalization of the rural periphery is the removal of the appurtenancy clause in 2003 by the Liberal government who intended to increase the level of competitivity of the forest industry by providing improved access to timber and increased flexibility in its use (Markey et al., 2012, p. 128; BC Gov, 2003b). The appurtenancy clause was put in place in the 1940s to provide stability to local economies and ensure that a minimum level of wealth creation and employment remained in the communities in which the resource was extracted, in this case, timber. Essentially, it tied harvesting rights to location-specific processing plants. The resulting consequences of this reform was an increase in ownership concentration and

specialization in the industry, and a decrease in employment and property taxes from closed mills in the local communities (Markey et al., 2012, p. 129). This example characterizes the “race to the bottom” policies that consecutives provincial governments have used in an attempt to cut costs for corporations (Markey et al., 2012, p. 117, 129). These policies have been used to allow the sector to remain competitive in the global staples economy in order to sustain the dependence of the provincial treasury on resource revenues, with a lack of consideration for repercussions to rural economies and communities (Markey et al., 2012, p. 124, 129-130).

2.2.3. Political Restructuring

The policy response of senior governments across Canada following the economic downturn of the 1980s has been described as “a shift from an equity-based service provision policy to less defined attempts at ‘enabling’ community development” (Markey et al., 2012, p. 120; Polèse, 1999). This trend depicts changes that happened in other industrialized nations through which governments, under the influence of neoliberalism, have decided to move away from interventionist approach to development planning and have downloaded responsibility for critical community and infrastructure services without proportionate fiscal and policy powers (Markey et al., 2012, p. 130; Polèse, 1999; Mackinnon, 2002; Halseth et al., 2003).

An ‘enabling’ approach can be defined as “government relinquishing of direct lines of responsibility for development in favour of facilitative approaches whereby responsibility then becomes either shared or entirely downloaded to local or regional levels of governance” (Markey et al., 2012, p. 142). This change in BC was, to some degree, a response to demands for more bottom-up representation and control at the local and regional level (Markey et al., 2012, p. 140). It was also a response to fiscal and ideological pressures focused on lessening the tax burden and increasing the role of the market in traditionally controlled government affairs (Markey et al., 2012, p. 139). Although there are clear benefits of grassroots or bottom-up development (Markey et al., 2012, p. 140), unfortunately, ‘enabling’ strategies can also be used to hide the reality of government abandonment of certain policy areas, in this case, rural and small town economic and community development (Markey et al., 2012, p. 120; Lee, 2003).

Beginning in the 1980s, there has been a retrenchment of support for government services in northern BC (Markey et al., 2012, p. 121; Markey et al., 2012, p. 134, Menhart & Foster, 2003). The federal government began reducing transfer payments in healthcare and education which affected provincial service provisions, especially in peripheral areas (Valley Sentinel, 1992b, 1994). This restructuring of services also included downsizing and office closures of both provincial and federal governments services (Valley Sentinel 1992a, 1995, 1996; Lawlor, 2002). This neoliberal unfolding has been recognized as being partly based on the application of urban-based models of efficiency to rural areas and which is clearly not adequate (Hanlon & Rosenberg, 1998). This trend has been exacerbated by a more recent regionalization of services, whereby services are being concentrated in larger, regional centres (Markey et al., 2012, p. 133-134; de Souza, 1990; Konkin et al., 2004; Halseth & Ryser, 2004, 2006). Along with local service reductions, these attempts to reduce provincial expenses also meant that critical infrastructure services were abandoned by the province and have therefore off-loaded the responsibility to local governments who now must find additional revenues to fund them (Markey et al., 2012, p. 121, 130; CBC News, 2002; Armstrong, 2002; Polèse, 1999; Mackinnon, 2002; Halseth et al. 2003; Ryser et al., 2023b; Whiteside, 2018b).

Under the pretext of ‘enablement’, successive provincial governments have actively reduced the supports, tools, and capacity of local actors to develop new pathways for economic and community development and have given more responsibility to already stretched local and regional institutions (Markey et al., 2012, p. 139). Further, under guise of “freedom to act”, senior governments have used the tools of New Public Management (NPM) and neoliberal policies to steer local governments’ time and resources (Markey et al., 2012, p. 139). The multiple waves of political restructuring described above have drastically changed the role and functions of local governments in British Columbia which has created additional challenges for rural and small town communities with limited capacity and resources without being awarded considerable fiscal or jurisdictional powers (Ryser et al., 2022; Blake, 2003; Martin et al., 2012; Gibson, 2019; Vesnic-Alujevic et al. 2019).

2.2.4. Changes to Local Governments

In the post-war period through to the 1970s, municipalities had a limited role, as the state was responsible for institutional frameworks and infrastructure, while industry provided large number of jobs (Ryser et al., 2023b). Local governments were mainly considered managerial entities with employees focusing on management processes and controlling budgetary constraints related to their operations (Van Gramberg & Teicher, 2000, p. 478). Their duties were also mainly prescriptive (Ryser et al., 2023b; Dirie, 2005). These responsibilities included physical infrastructure; local service provision such as police, fire, transportation, and recreation; managing local and regional relationships, as well as local land-use planning and growth management (Coiacetto & Baker, 2005; Lyons, 2015). Eventually, the Province began making changes to legislation to increase the capacity and responsibility of local government.

The 1980s global recession was the tipping point when economic, political, and social restructuring processes unfolded into the rise of neoliberal public policy and NPM replacing the previously established Keynesian model (Ryser et al., 2023b). This shift emphasized confidence in markets, free trade, capital mobility, a non-interventionist role of the state (Hay, 2007), as well as private property rights and individual entrepreneurial freedom (Harvey, 2005). This political change resulted in local communities being asked to take on more responsibility for their own economic and social development planning (O'Keefe & Douglas, 2009; Tennberg et al., 2014; DeFilippis & Swaggart, 2012; Dollery, Grant & Akimov, 2010). Unfortunately, these significant structural changes have not been accompanied with commensurable fiscal resources or modernized jurisdictional powers (Ryser et al., 2023b; Clark, 2018; Heisler & Markey, 2014; Ryser et al., 2019). In fact, these neoliberal policies have included fiscal retrenchment, reduced grants and transfers, abandoned services, and downloading of costs and responsibilities onto municipalities all with an over-arching goal of reducing government expenses (Graham, 2010; Smith & Stewart, 2005). Within this neoliberal framework, NPM prescriptions were brought forward through further regulatory and legislative reforms directly impacting the resilience of rural and small town local governments.

New Public Management is defined as "policy reforms that mobilize institutional rules and regulations to exert control over public sector organizations, with a focus on cost reduction, devolution or transfer of responsibilities, cost recovery, accountability,

performance, and generating greater efficiencies through incentives and market-based strategies (Ryser et al., 2022; Cohn, 2008; Young et al. 2020)". Indeed, such austerity measures of marketization have been described by Whiteside (2018a, p. 412) as having the aim to make the public sector more 'market-like' and 'market-reliant'. In this context, the costs and risks of economic failure are reshuffled onto municipalities (Ryser et al., 2022; Whiteside, 2018b).

In the 1990s, the provincial government strategy changed from outright reducing support to adopting new legislation that would 'enable' local governments to provide a wider range of services (Ryser et al., 2022; Bish & Clemens, 2008); hence reaffirming Whiteside's (2018b) argument. This change occurred partly as a reaction to federal fiscal cuts to housing, infrastructure, social service and policing, ultimately resulting in these responsibilities being downloaded at the provincial and then further at the local level of government (Berdahl, 2004; McMillan, 2004; Ammons, Smith & Stenberg, 2012). This change contributed to the overall strategy of downloading provincial costs to local taxpayers. The strategy included the use of legislative distinctions between "voluntary" and "mandated" functions of local government. Essentially, as local governments became increasingly willing (or strongly encouraged by restructuring pressures) to 'voluntarily' take on more responsibilities, the Province was no longer accountable for the provision or cost associated with these services. Unfortunately, the concomitant provincial funding withdrawal meant that if local communities wanted to keep the services affected by those withdrawals, they now needed to find ways to afford them (Ryser & Halseth, 2014).

The early 2000s was marked by the enactment of the Local Government Act, as well as the Community Charter, which together replaced the older Municipal Act (Ryser et al., 2022). Included in these legislative reforms were provisions for local governments to pursue public-private partnerships (P3) for infrastructure investments, provided "natural person" powers to municipalities, recognized them as an order of government, and established a clearer legal framework for their operations. These reforms, by continuing to increase the scope of permissibility for local governments' actions, allowed for the downloading trend to continue. In fact, the permitting of "natural person" powers allows municipalities to determine the service they provide instead of itemized powers in municipal legislation (Ryser et al., 2023b; Smith & Stewart, 2005); hence scholars have raised that such changes are in fact based on NPM objectives and can lead to more

downloading (Ryser et al., 2023b; Aars & Ringkjøb, 2011). These changes officialized the transition from a prescriptive approach to the role and functions of local government towards a more permissive style; the Charter also represented NPM directives by 'enabling' local governments, while maintaining the provincial authority and oversight. Indeed, this provincial authority materializes through potential legislative overrides on local government land use and other regulatory power (Bish & Clemens, 2008, p. 24), but also through increased accountability and reporting requirements (Ryser et al., 2022).

Municipal reforms, combined with the accompanied rural restructuring challenges, has caused the resiliency of peripheral communities to be threatened. Neoliberal policies have provoked a shift towards a market-oriented approach to governance and provincial governments are encouraging municipalities to become more innovative and entrepreneurial in their quest to diversify and strengthen their local economies (Ryser et al., 2023a). In fact, the Province of British Columbia, as well as a number of other Canadian provinces, now require municipalities to report revenue from municipal enterprises (Ryser et al., 2023b; Infrastructure and Finance Branch, 2021; Ministry of Municipal Affairs and Housing, 2020). Indeed, this emerging form of revenue-generating initiative is on the rise in BC, particularly in small municipalities, where most of the growth has been documented. This trend has also been witnessed in other rural areas of the world, such as in New Zealand, as local government respond to increasing responsibilities and top-down support offloading by senior levels of government (Ryser et al., 2023b; Ateljevic, 2009). However, senior governments have been ineffective at laying the foundation for unambiguous legislative and regulatory frameworks to shape municipal entrepreneurial culture. Moreover, local government entrepreneurialism can be seen as controversial, since such strategies could be strengthening senior governments' policies of withdrawals and reduced investments in rural regions (Halseth, 2017; Woolford & Curran, 2011; Van Gramberg & Teicher, 2000). It may also provide a 'scape goat' mechanism to blame municipalities for their ineffectiveness at transitioning to an entrepreneurial orientation and improve their socio-economic conditions (Herbert-Cheshire, 2000, p. 210), while turning a blind eye at the removal of many critical supports necessary for those communities to secure such new prospects (Halseth, 2017, p. 5). Nevertheless, municipal enterprises, and more broadly, municipal entrepreneurialism, may still provide a different option for rural and small towns to invest

in place and develop new paths to support greater community resiliency and sustainability (Ryser et al., 2023a).

2.3. Local Government Entrepreneurship

2.3.1. Provincial Legislative Framework

To address some capacity shortages, achieve greater efficiencies or economies of scale, share risks, or to obtain expertise, the Community Charter allows municipalities to receive assistance from other municipalities, private businesses, or non-profits to provide services on behalf of the municipality if enter into a partnering agreement (Ministry of Community Services, 2006). Conversely, it also allows a municipality to provide assistance to a municipal corporation under a partnering agreement and this formal agreement protects both parties. The BC Government defines partnering agreement as follows: “The partnering agreement is the key form of contract between a municipal shareholder and its municipal corporation. Under a partnering agreement, a municipality may transfer property or other assets or provide funding to a municipal corporation. It may also borrow for the benefit of the corporation (Ministry of Community Services, 2006, p. 23).” Section 175 of the Community Charter also specifically allows municipalities to finance capital needs through these types of agreements (BC Gov, 2003a). The only requirement is that the liability should not extend longer than the life expectancy of the service or asset under agreement. Further, the liability terms are still subject to standard liability servicing limits of 25% of municipal revenues established by Section 174 of the Community Charter (BC Gov, 2003a).

The Community Charter also requires a municipality to obtain prior approval of the public for certain financial transactions under a partnering agreement including incurring a long-term liability (beyond 5 years), lending, or guaranteeing repayment of borrowing (Ministry of Community Services, 2006). As there are many risks and liabilities involved in developing a municipal enterprise or partnering with a private enterprise as part of a P3 partnership, a municipality may have to hold public meetings and consultations that are advertised at least 30 days in advance. Creating a municipal enterprise corporation will protect a municipality from lawsuits against the corporation (Ministry of Community Services, 2006) and therefore may be a wise avenue for high-risk endeavors.

2.3.2. Conceptualizing Municipal Entrepreneurship

Municipal entrepreneurialism is not a novel concept. This type of initiative began in the 1960s as local governments decided to take the lead pursuing economic renewal and diversification development projects in their communities (Ryser et al., 2023a; Robinson, 1995; Coiacetto & Baker, 2005; Vining et al., 2014). Further, in northern BC, the 1980s has witnessed the beginning of more organized and formal experimentation of place-based, bottom-up development strategies (Markey et al., 2012, p. 153). However, more generally, the concept of entrepreneurship has been open to many debates. Different terminology has been associated with local government entrepreneurship and related innovative activities including, “municipal enterprises, public sector entrepreneurship, public enterprises, entrepreneurial orientation, entrepreneurial leadership, mixed enterprises, and public-private partnerships (P3 partnerships)” (Ryser et al., 2023b; Mbecke, 2015; Melissanidou, 2016). Also, four main topic areas have emerged from research documenting local government entrepreneurialism including economic development, real estate development, service production or contracting, and e-government (Leyden & Link, 2015; Bryant, 1989). Theories of entrepreneurialism has also delved into the ideas of entrepreneurial culture and social enterprises (Ryser et al., 2023b; Kobia & Sikalieh, 2010). The success of these strategies, however, has been identified as dependent upon entrepreneurial capacity, institutional culture, and availability of capital, social networks and information networks of local government (Shearmur & Poirier 2015, 2017; Malecki, 1994). Indeed, issues concerning internal capacity, local power and politics, as well as inadequate senior government supports provide clues as to how to better support such initiatives (Shearmur & Poirier, 2017). Further, the two broader categories of ‘risk-taking’ and ‘leveraging’ initiatives have emerged as useful in conceptualizing the local government entrepreneurial initiatives of this study as they are congruent with our two case studies of Burns Lake and Dawson Creek respectively (Ryser et al., 2023a; Ryser et al., 2023b).

2.3.3. Local Government Entrepreneurialism as ‘Risk-Taking’ Initiatives

Ryser et al.(2023b) finds that the business literature first and foremost looks at entrepreneurship through the lens of ‘risk-taking’ behaviour potentially leading to profit-making ventures, economic growth, as well as ownership (Audretsch et al., 2015). These

entrepreneurial initiatives are strategically intentioned to create or augment efficiencies and competitive performance (Deslatte & Swann, 2020). Local government's interests in entrepreneurship can include such motives, but should have additional intentions, particularly in working towards the public interest by achieving specific policy goals and solving local issues (Teske & Schneider, 1994). Within the context of neoliberal restructuring, municipal entrepreneurialism can be defined as "the pursuit of 'risk taking' activities to support growth and development while reducing dependency on senior government" (Ryser et al., 2023b; Dannestam, 2008).

Within the decision-making process of public sector organizations, risk is referred to as the potential of an event, procedure, or decision leading the continuity of operations that can result in harmful, undesirable, and costly consequences (Ryser et al., 2023b; Bullock et al., 2019). Entrepreneurialism in the public sector is quite complex, as it is inherently political and highly legislated, sheltered from market exposure, must respond to increased standards of legitimacy and public accountability, as well as higher risk aversion compared its private sector counterpart (Ryser et al., 2023b; Swann, 2017, p. 544). However, researcher have investigated multiple facets of risk management in the public sector (Ryser et al., 2023b; Bullock et al., 2019). Such processes require sufficient institutional infrastructure and associated resources to support functions such as data collection and analysis, reporting and monitoring, and management of accountability and risks (Bullock et al., 2019; Levesque et al., 2017). Unfortunately, as discussed above, the assets to support such opportunities have been reduced in small, rural municipalities struggling with neoliberal policy and industrial restructuring. Therefore, it is important to assess the capacity of local governments to manage risk and how it can influence the development of municipal entrepreneurial initiatives within statutory restrictions that define or limit the agility of local governments to those potential risks (Ryser et al., 2023b). In this case, the 'leveraging' of assets may be an entrepreneurial solution that relieves of the pressure associated with such capacity constraints.

2.3.4. Local Government Entrepreneurialism as 'Leveraging' Assets and Partnerships

Ryser et al. (2022) notes that "debates in the literature have explored abilities of local governments to 'leverage' assets, such as human capital, unique products, or

place-based resources, as well as opportunities to shape entrepreneurial process through opportunities to renew regulations or develop new technologies" (Ryser et al., 2023b; Kuratko et al., 2015). Part of this body of literature specifically investigates the 'leveraging' of P3 partnerships and municipal policies "to acquire capital and expertise to build, lease, or operate key community and economic development assets" (Ryser et al., 2023b; Kitchen, 2006; Vining et al., 2014) while supporting the resilience of communities. Indeed, P3 partnerships can benefit both the community and the private sector partner, potentially producing "win-win" situations.

An example of how such mechanisms could materialize is when a private sector partner provides matching funds for a community project, then, builds and operates those assets, most likely to their benefit, for an agreed cost and time. Once the deadline is reached and the company has earned enough profits to recuperate its investment, the asset gets transferred to the municipality to enjoy economic and community benefits (Ryser et al., 2023b; Kitchen, 2006; Vining et al., 2014). These types of strategies allow municipalities to retain more control over the development process and outcome to fulfill community objectives, while sharing some of the risks associated with development with the partners (Coiacetto & Baker, 2005). In small, rural municipalities, forming such new relationships and partnerships is a critical source of innovation, which can be leveraged to strengthen the resilience of those communities (Markey et al., 2012, p. 66) and carve new pathways to break path dependency. However, these entrepreneurial initiatives should remain anchored in place-based assets, such as proximate natural resources, to use local strengths and capabilities to create efficiencies for these communities and to support their economies.

2.3.5. Place-based Development & Municipal Entrepreneurialism

Markey et al. (2012) has identified that "within a context of senior government withdrawal, the health of local economies is increasingly a community responsibility" (Markey et al. 2012, p. 152). This situation could be advantageous to local communities, as familiarity or 'awareness' of place, is linked with contextually informed, or tacit knowledge, and is increasingly integral to innovation and adaptation processes (Markey et al. 2012, p. 141; Bradford, 2005; Filion, 1998). Moerover, local decision-makers, equipped with this local awareness, are more likely to select development strategies appropriate to place. Ryser et al. (2022) explains that municipal staff and council and

other institutional entrepreneurs can create new pathways for their community by installing new practices or institutional arrangements through the rearrangement of local knowledge, experience, relationships, political capital, resources, and other community assets to support place-based and locally informed entrepreneurial initiatives (Ryser et al., 2023a; Brekke, 2015; MacKinnon et al., 2019; Taylor et al., 2019). However, place-based development requires increased local capacity as local actors are summoned to define appropriate solutions to community strengths and aspirations (Markey et al. 2012, p. 66).

Also, centralized government decision-makers and bureaucrats are most often too far removed from peripheral regions to be able to respond quickly enough to rapidly changing conditions (Markey et al. 2012, p. 66). In a fast-paced, globally connected and technologically enhanced society, community resilience is now defined as much by flexibility and responsiveness as it is by inherited assets (Markey et al. 2012, p. 141). Therefore, developing community capacity that fosters increased responsiveness (McIlveen & Bradshaw, 2009) becomes an important process objective. Moreover, municipal entrepreneurialism and related, bottom-up, place-based development strategies can, at least, foster a sense of ownership over decisions and resources for local communities (Markey et al. 2012, p. 66) and scaling-up this type of initiative may lead to better development decisions and better outcomes in rural and small town localities.

Resilience of rural, resource-dependent communities now also requires a special attention to how their place-based environmental assets are affected by climate change (Birchall & Bonnet, 2019; Cains & Henshel, 2019). Community resource management is possibly a mechanism through which resource-dependent communities with immediate and accessible natural resources can develop opportunities for local economic diversification (Markey et al. 2012, p. 178), while simultaneously addressing the impacts of a changing climate on their community (Medina Hidalgo et al., 2021). The increased local governance capacity fostered by such models may provide hope for more effective, contextually informed sustainable development (Bixler, 2014) and climate adaptation measures (McNamara & Buggy, 2017; Dodman et al., 2010).

2.4. Community Resource Management

2.4.1. Conceptualizing Community-based Natural Resource Management

Community resource management is mostly conceptualized in the literature as community-based natural resource management (CBNRM). The term ‘community’ has been found to have different meanings in different fields and therefore requires a clear definition if it is to be used (Sekine et al., 2009; Delanty, 2003). In the field of CBNRM, the definition is borrowed for social-ecological systems thinking and broadly represents the people living in proximity to and dependent on the resource (del Mar Delgado-Serrano et al., 2016; Dietz et al., 2003; Cox et al., 2010; Soviana & Kühl, 2013). Although there is not a single institutionalized definition of CBNRM (del Mar Delgado-Serrano et al., 2016), the concept is based on the premise that “those living closest to natural resources have the most impactful relationships with those resources, are the most likely to bear the costs and reap the benefits of [sustainable management] and are the most capable of preserving those resources” (Qin et al., 2020), as they have a substantial incentive to do so (McIlveen & Bradshaw, 2009).

The review from Milupi et al. (2017) identified that the term was first coined around the 1960s in efforts to provide ownership rights to local communities to manage local resources. However, only starting in the 1980s did it gain in popularity and became widely known and its use was expanded across Africa for wildlife conservation and management. This management regime was designed as a response to a generalized global failure of centralized approaches to managing natural resources, which resulted in devolution to the local level and is considered a bottom-up, participatory approach (Qin et al., 2020; Milupi et al., 2017; del Mar Delgado-Serrano et al., 2016). Qin et al. 2020 notes that its popularization can be traced to the spread of democratic governance principles and nascent international development goals including social and environmental justice and sustainability (Qin et al., 2020). Community forests are one form of CBNRM regime that emerged from this period (Gilmour, 2016; Ambus & Hoberg, 2011; Brosius et al., 1998). The community approach to natural resource management also spurred a paradigm shift from previously generalized Malthusian thinking which saw communities and humans in contradiction to positive environmental goals. However, a connection can still be made between rural, subsistence-based and natural resource-

based communities and the depletion of natural resources in some areas, and the related tragedy of the commons (Qin et al., 2020).

2.4.2. Global Pressures Influencing the Effectiveness of CBNRM Regimes

Also, CBNRM should be viewed as a global assemblage, as it is enabled by governmental, non-governmental (NGOs), and private sector actors that interact at local, national, and international scales while having a direct or indirect impact on local communities (Heffernan, 2022). For example, in British Columbia, such can be said about provincially-determined forestry practices and harvest rates (Pinkerton et al., 2008). These are determined by provincial governments, with close interaction with the forestry sector and attention to global markets and various pressures from environmental, indigenous and labour groups (Markey et al., 2012, p. 104, 116), but have a direct impact on locally-implemented Community Forest Agreements (CFA). Bixler (2014) calls for a polycentric governance of environmental issues and suggests that community forest governance can contribute to cross-scale ecological dynamics by establishing these important relationships. The same can most likely be said about industrial water extraction permits, directly impacting downstream fauna and flora and communities (Barnett et al., 2015). Hence, CBNRM, although highly focused on place-based outcomes, cannot be dissociated from its highly political and complex nature (Heffernan, 2022), especially considering globalization.

In fact, globalization, through the intensification of trade and dispersion of knowledge and technology, has put immense pressure on natural resources through increased population and demand (Heffernan, 2022), and further through the associated climate impacts created by the exponential increase in CO2 emissions (McNamara & Buggy, 2017; Heffernan, 2022). Climate change is currently having a non-negligeable impact on CBNRM regimes (Heffernan, 2022) and cannot be further dissociated from community resource management and its integrated development objectives.

Climate change is a clear menace to development initiatives and now requires serious attention when designing development strategies (Medina Hidalgo et al., 2021; Runhaar et al., 2018). Strategies recommended by the United Nations Framework on Climate Change increasingly acknowledge and promote the role of natural resource

management as climate adaptation strategy (Reid, 2016). In this sense, we should be "viewing adaptation to climate change as a new paradigm for development, whereby adaptation is fostered through sustainable development and vulnerability reduction processes rather than through explicit adaptation policies (McNamara & Buggy, 2017; Schipper, 2007)"; we should be connecting adaptation to development needs (McNamara & Buggy, 2017; Barnett & Campbell, 2010), as CBNRM connected conservation with community well-being.

2.4.3. Development and Conceptualization of Community-based Adaptation

As with the development of the field of community-based natural resource management, the field of climate adaptation is now trending towards more participatory approaches, distancing itself from prescriptive, techno-centric approaches, to fostering local empowerment, and involvement in decision-making regarding adaptation strategies (McNamara & Buggy, 2017). This evolution is due to increased suspicion of maladaptation from techno-centric measures, sometimes resulting in increased vulnerabilities and negative externalities for affected communities (McNamara & Buggy, 2017). This evolution is also related to scholars from the field integrating lessons from CBNRM and other related disciplines (McNamara & Buggy, 2017). Community-based adaptation (CBA) and ecosystem-based adaptation (EBA) have emerged "as effective methods for navigating the complexities of implementing climate adaptation in communities that rely directly on ecosystems and natural resources as their main sources of livelihood" (Medina Hidalgo et al., 2021; Kirkby et al., 2018; McNamara & Buggy, 2017; Pearson et al., 2020) such as rural, resource-dependent towns.

Indeed, ecosystems that are adequately managed, stable and biodiverse provide adaptation benefits (Piggott-McKellar et al., 2019; Reid et al., 2009), and that their associated ecosystem services can also increase adaptive capacity and the resilience of local places (Reid, 2016; Millennium Ecosystem Assessment, 2005; Reid & Alam, 2014). The United Nations Convention on Biological Diversity defines EBA strategies as "the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change" (Reid, 2016; United nations Convention on Biological Diversity, 2009, p. 41). Even though CBA and EBA strategies have been endorsed by different groups (development and conservation

experts respectively), they both recognized the need for participatory processes, while effective CBA should put significant attention on ecosystems and their services (Reid, 2016). Moreover, in practice, professionals tend to use strengths of both approaches instead of segregating these methods (Reid, 2016; Girot et al., 2012). This suggests a need to integrate both approach and use components of CBNRM, a field which already combines these multiple values and processes for the management of natural resources. For the purpose of this research project, we will focus on discussing CBA, since its tenants are closely aligned with those of CBNRM and can include ecosystem health as an important value for resource-dependent communities.

The term “community-based adaptation” was established in 2006 (Piggott-McKellar et al., 2019; Huq & Reid, 2007) and can be defined as “a community-led process, based on communities’ priorities, needs, knowledge and capacities, which should empower people to plan for and cope with the impacts of climate change” (Reid, 2016; Reid et al., 2009, p. 13). CBA recognizes the importance of existing coping and adaptive capacity of local communities, often involving local environmental asset and natural resource management practices (McNamara & Buggy, 2017). Further, this method establishes that the vulnerability and adaptive capacity of communities can be partly assessed by how they have responded to previous environmental stress (McNamara & Buggy, 2017). Importantly, CBA aims to reduce communities’ vulnerability to the impacts of climate change, but additionally attempts to empower communities to make decisions about their livelihoods, while addressing the social, cultural, and political context possibly hindering this process (Piggott-McKellar et al., 2019; Berger & Ensor, 2014). These objectives are inherently rooted in its endogenous development component.

2.4.4. Importance of Social Processes in Community-Based Exercises

In fact, it has been shown that enabling local decision-making mechanisms and incorporating local knowledge produces more effective, accepted, and sustainable adaptation efforts (McNamara & Buggy, 2017; McNamara, 2013; Archer et al. 2014; Lasage et al., 2015) and more successful CBNRM regimes (Milupi et al., 2017). Medina Hidalgo et al. (2021) also demonstrated that “for community members to commit and engage in the implementation of activities an acknowledgement of community perceptions of environmental change, development priorities, and direct relationships

between ecosystem services and livelihoods is vital". Moreover, CBNRM regimes show increased performance if linked to social movements (Villamayor-Tomas & García-López, 2018). Therefore, the use of participatory tools used in CBA and CBNRM can facilitate the development of effective measures (Milupi et al., 2017; McNamara & Buggy, 2017; Smit & Wandel, 2006; Van Aalst et al., 2008; Kwiatkowski 2011; Ford & Pearce, 2012; Khan et al., 2012; McClymont Peace & Myers, 2012; Robledo et al., 2012; David et al., 2013; Lasage et al., 2015), stimulate exchanges between community members and external actors which in turn contribute to building social capital, stimulate social cohesion, and consequently, increase adaptive capacity (Milupi et al., 2017; McNamara & Buggy, 2017; Pelling, 2002; Khan et al., 2012; Bele et al., 2013; David et al., 2013; McNamara, 2013; Coughlan de Perez et al., 2015). In fact, social capital, social cohesion, social networks, and collective action have all been shown to be fundamental in building adaptive capacity in communities (McNamara & Buggy, 2017; Kelly & Adger, 2000; Pelling, 2002; Adger, 2003; Allen, 2006; Ebi & Semenza, 2008; Ebi, 2009; Sovacool et al., 2012; Prior & Eriksen, 2013; Campos et al., 2014; Stott & Huq, 2014).

Local communities' social networks may also provide enabling capacities through connections with institutions at other scales of policy-making (Larson et al., 2017; Bixler, 2014; Jaja et al., 2016) if incentives are aligned. Indeed, peripheral communities' adaptive capacity inherently depends on external financial, human, technological and other resources since, as discussed above, they may have limited internal resources (Larson et al., 2017; Jaja et al., 2016).

2.4.5. Multi-Scalar Approach to Environmental Management and Capacity Building

The CBA literature now widely supports the use of a multi-scalar approach in order to enable communities to have access the external resources they need to strengthen their adaptive capacity and support adaptation measures (McNamara & Buggy, 2017; Kelly & Adger, 2000; Berkes & Jolly, 2001; Pelling, 2002; Adger, 2003; Ebi & Semenza, 2008; Van Aalst et al., 2008; Heltberg et al., 2009; Ayers, 2011; Kwiatkowski, 2011; Adhikari & Taylor, 2012; Drolet, 2012; Amaru & Chhetri, 2013; Dodman & Mitlin, 2013; Archer et al., 2014; Conway & Mustelin, 2014; Regmi & Star, 2014; Stott & Huq, 2014; Reid, 2016). Indeed, the literature does acknowledge that there

are limits to what local communities can accomplish on their own (McNamara & Buggy, 2017; Middelbeek et al., 2014; Spires et al., 2014), particularly rural places which often lack the necessary informational, human, technical, and financial resources (McNamara & Buggy, 2017; Fenton et al., 2014; Regmi & Star, 2014; Simane & Zaitchik, 2014; Spires et al., 2014). Multi-scalar and multi-stakeholder approach enables the formation of partnerships that provide these types of resources and support capacity building (McNamara & Buggy, 2017; Dumaru, 2010; Allen, 2006; Adhikari & Taylor 2012; Khan et al., 2012; Picketts et al., 2012; David et al., 2013; Middelbeek et al., 2014). The involvement of actors from different scales of action may even spur more effective learning, innovation, and adaptation measures (Bennett et al., 2016) fostering resilience of social-ecological systems at play (Bixler, 2014; Armitage, 2008). Moreover, the management of environmental issues such as the mountain pine beetle (MPB) epidemic, wildfire mitigation and water conservation (Bixler, 2014) and climate change (Jaja et al., 2016), as well as issues at ecosystems and watershed level (Larson, 2002) are multi-jurisdictional and multi-sectoral in nature and require multilevel governance approaches to achieve more effective management outcomes.

Indeed, Jaja et al. (2016) explains that institutions at various scales can greatly impact community adaptation as they act as intermediaries between the individual and community-wide responses, as well as between senior government funding and local action, thereby becoming a factor of adaptive capacity (Agrawal, 2008). Under pressure, peripheral communities must navigate ambiguity between accepting external support and acknowledging the strengths of local governance mechanisms and knowledge, as both are required to adapt to a rapidly changing environmental conditions (Medina Hidalgo et al., 2021; Jamero et al., 2018; McMillen et al., 2017; Perkins & Krause, 2018); such context also require that local institutions be flexible and nimble (Jaja et al., 2016; Gupta et al., 2010). Relatedly, “adaptive capacity can be seen as a function of the embeddedness of local communities in vertical and horizontal governance structures” (Jaja et al., 2016; Ingold et al., 2010), allowing for increased collaboration and cohesion potential (Jaja et al., 2016). Vertical integration refers to organizations or institutions being linked across scales, while horizontal integration happens across sectors. The former is crucial for capacity-strained rural communities, while the latter is often the result of deliberate actions with the intention of resolving precise issues that increase community well-being (Jaja et al., 2016; Young, 2002). The closest vertical connection

for communities is naturally their local government. Local governments are, indeed, one form of institutions that supports community-based adaptation initiatives and research has demonstrated that “strong local-scale system of social-ecological governance increases the likelihood that governance at other scales will be successful” (Bixler, 2014; Dietz et al., 2003).

2.4.6. Local Governance of Community-Based Adaptation

In fact, local governments have been identified as a crucial institution to support community-based adaptation (McNamara & Buggy, 2017; Dodman et al., 2010), since they already have some capacity that can be utilized and strengthened for adaptation projects (Piggott-McKellar et al., 2019; Dean et al., 2017). In fact, the review by McNamara et al. (2017) finds that strong local institutions can support active community participation (Adhikari & Taylor, 2012), advocate for community aspirations (Archer et al. 2014), and contribute to developing social capital locally (Dodman et al., 2010). Indeed, the literature in the field of climate adaptation seems to emphasize the role of municipal governments as important actors that can support local stakeholders in achieving adaptation objectives and strengthening adaptive capacity. On the contrary, the CBNRM literature does not put much emphasis on the role of local governments (Larson, 2002; Encarnacion, 1999; Enters & Anderson, 1999; Carney & Farrington, 1998; Fisher, 1999; Lindsay, 1999) although some literature exists on the role of local governments in natural resource management generally.

2.5. Role of Local Governments in Natural Resource Management

The rise of neoliberal policy and CBNRM has contributed to national governments worldwide, particularly in Latin America, Asia and Africa, to decentralize or download natural resource management to local authorities (Thomas, 2010; Larson, 2002), sometimes without commensurate fiscal and jurisdictional authority (Ambus & Hoberg, 2011). As previously mentioned, the rational is that local governments (or other local governance institutions) are better equipped (Larson, 2002; World Bank, 2000) and more contextually knowledgeable (Markey et al., 2012, p. 141; McNamara & Buggy, 2017) to foster the needs of the local people compared with national governments. They are also the closest decision-making body to those impacted by environmental

catastrophe and climate change (Birchall & Bonnet, 2019; Forino et al., 2017). Moreover, Pini et al. (2007) points to the literature demonstrating the importance of involving concerned people in local government management of natural resources. As such, these institutions should at least support local public consultation and participation processes (Larson, 2002). Indeed, elected officials have the duty to be accountable to their constituents (Douglas, 2005; Larson, 2002) and these leaders have an opportunity to improve their community's resilience through strategic natural resource management (Winther, 2017) and adaptation thinking (Birchall & Bonnet, 2019). Unfortunately, local governments often lack the appropriate resources to undertake such tasks, which may have negative consequences on communities and the environment (Larson, 2002).

Indeed, empirical research has demonstrated that local governments need adequate technical, financial, and legal capacity, an incentive, and a long-term commitment regarding sustainably managing the resource for successful local natural resource management to take place (Larson, 2002). This situation emphasizes the need for a multi-scalar approach, discussed above. In this context, senior governments provide support to local governments and a broader perspective guiding management and development (Bixler, 2014; Larson, 2002), although some regulatory agencies, such as forest ministries, on the other hand, may have more narrower management objectives than communities (Falleth & Hovik, 2009), which may become a source of conflict (Larson, 2002). The need for collaboration between stakeholders is also supported by the ineffectiveness of decentralization in cases where management decisions affect communities outside of local decision-maker's jurisdiction (Falleth & Hovik, 2009; Oates 1972), which is the case in most natural resource sectors, ecosystems, or watersheds, reiterating that multi-level governance results in more effective outcomes in this context (Larson et al., 2017; Bixler, 2014).

2.5.1. Local Governance & Community Adaptive Capacity

As discussed above, small towns are disadvantaged compared to larger metropolitan areas as they are limited in capacity and fiscal resources which consequently affects their ability to effectively management their local natural resources (Larson, 2002) and adapt to climate change (Piggott-McKellar et al., 2019). This situation may pose some challenges to the development of adaptive capacities in peripheral areas since adaptive capacity building has been shown to be dependent upon

supportive socio-economic and socio-political context (McNamara & Buggy, 2017; Adger, 2003; Campos et al., 2014). In fact, adaptive capacity is highly place-specific and therefore, solutions need to be designed in relation to local context and capacities (McNamara & Buggy, 2017). The role of local governments in this context may lie in supporting the development of local social capital, and related collective action and social learning mechanisms that support community's ability to respond to change (Winther, 2017; Steiner & Markantoni, 2014).

Climate adaptation is a process, not an end, and this process can be supported by sustainable development and processes, and a focus on fair and equitable outcomes (Barnett et al., 2015; Stafford-Smith et al., 2011; Hurlimann et al., 2014), which can be fostered by local elected officials and related institutional governance mechanisms. This suggests that by developing processes that support these outcomes, communities will develop adaptive capacity and become more resilient. Indeed, for climate change adaptation (Cains & Henshel, 2019), as well as other CBNRM schemes to be effective (McIlveen & Bradshaw, 2009; Gilmour, 1989; Sharma, 1993; Morell, 1997), the place-specific context and the aspirations of the local community need to be accounted for and a participatory approach can foster such objectives (Edwards et al., 2019; McNamara & Buggy, 2017). Developing initiatives that foster co-benefits and integrate multiple values in regard to climate adaptation (Cains & Henshel, 2019) and development planning (Reid, 2016) can be an attractive solution for rural communities.

2.6. Conclusion

The use of local natural assets in municipal enterprise development may be able to provide much needed relief to rural and small town communities but should be developed with a long-term community vision for optimal success. Using governance structures that allow for participatory mechanisms, as well as the clear definition of rights and benefits may protect community benefits and allow for sustainable development objectives to be balanced in community-based local government led initiatives. For example, Community Forest Enterprises (CFEs) can opt for a social enterprise structure in which members of the community are able to constantly re-assess organizational performance and objectives and ensures that goals of enterprise growth and holistic community benefits are continually balanced (Siegner et al., 2021). In the case of climate adaptation, trade-offs resulting from specific measures, such as water allocation

rights, should be put to light and publicly discussed with the community to create socially acceptable and just solutions (Barnett et al., 2015; Gross, 2014). As discussed above, such processes may also benefit communities through increased local adaptive capacity creating climate adaptation co-benefits (McNamara & Buggy, 2017; Dodman et al., 2010). The two case studies presented in this paper will provide examples of how such measures are operationalized in a rural small town context of northern BC, as well as the challenges they faced and benefits resulting from their development.

Chapter 3. Methods

This study is part of a larger nation-wide project that examines municipal reforms and the role and design of municipal entrepreneurialism in British Columbia, Alberta, Ontario, and Newfoundland and Labrador. The first phase of the research explored how municipal fiscal and jurisdictional reforms are unfolding in rural Canada, and how small municipalities are responding to these changes through innovative or entrepreneurial approaches to community and economic development. A second phase of the research examined detailed case studies of municipal entrepreneurial initiative development, including the complementary investigation of the management of environmental risks by local governments involved in natural resource management in British Columbia.

As part of the first phase of the project, the research team conducted case analysis in 33 small municipalities in British Columbia, Alberta, Ontario, and Newfoundland and Labrador; 8 of those located in BC (see Table 1). The case communities were selected based upon an extensive media and literature review of local government entrepreneurial strategies unfolding in small municipalities across Canada, as well as previous research by team members in these sites. Drawing upon Statistics Canada data from the 2016 census period, participating municipalities in this study ranged from a population of 613 to 222,726. The latter reflects the inclusion of the largest regional rural county in Ontario with community populations ranging from 7,336 to 28,191. This has produced caveats for our research stemming from selection bias and convenience sampling and the potential impacts this may have on the external validity of the issues emerging from key informant interviews (Reed et al. 2003). By drawing upon a range of case studies in four regions across Canada, however, we hope that a more comprehensive understanding of municipal reforms and insights into entrepreneurial strategies can be provided for small municipalities in Canada.

In 2020 and 2021, 62 key informant interviews were completed with elected municipal leaders, CAOs, economic development officers, planners, or retired staff that could provide in-depth knowledge of the entrepreneurial strategies being mobilised in these municipalities. Questions explored how municipalities were generating revenue and other resources needed to address municipal responses to local government reforms and support new economic development pathways. We explored the use of

municipal enterprises and how municipalities are actively engaging in other forms of entrepreneurship by leveraging municipal policies and bylaw mechanisms, agreements, partnerships, assets, or innovative practices or arrangements.

Table 1. Phase 1 – Case Study Locations

British Columbia	Alberta	Ontario	Newfoundland and Labrador
Burns Lake	Canmore	Brock	Bonavista
Dawson Creek	Flagstaff County	Brockton	Deer Lake
Fort St. John	Forestburg	Dubreuilville	Fogo Island
Kitimat	Hanna	Goderich	Grand Falls-Windsor
Mackenzie	Lethbridge County	Haldimand County	Holyrood
Prince Rupert	Olds	Newmarket	Labrador City
Quesnel	Parkland County	Sioux Lookout	Placentia
Valemount	Taber	Wellington County	St. Anthony
	Wainwright		

Based on the results of phase one, phase two required selecting two cases for in-depth case study research to better understand how municipal entrepreneurial initiatives (endogenous mechanisms) are being used to strengthen the resiliency of resource-dependent rural communities in northern British Columbia (see Table 2). The Burns Lake Community Forest in Burns Lake, BC and the Water Reclamation Project in Dawson Creek, BC were selected based on phase one media searches, extensive literature reviews, and results from key informant interviews. The two cases represent a diversity of size and economic activity, but both have been responding to restructuring pressures, concerns over their economic development trajectories, and consequences from exacerbating effects of climate change. Moreover, both communities are leveraging their local, place-based environmental assets as part of their municipal entrepreneurial initiatives. Data from these two case studies support the empirical findings presented in this research paper. The methodology for phase two consists of literature reviews, analysis of census, local government statistics and reports, as well as interviews with key informants involved in both municipal entrepreneurial initiatives. Further document analysis was performed to triangulate research, corroborate findings, and limit any potential biases (Bowen, 2009; Connell et al., 2001; Danto, 2008).

Table 2. Phase 2 – Case Study Locations and Attributes

Municipality	Type of Municipal Entrepreneurial Initiative	Name of Municipal Entrepreneurial Initiative	Sector of Municipal Entrepreneurial Initiative
British Columbia			
Burns Lake	Municipal enterprise	Burns Lake Community Forest	Forestry
Dawson Creek	Public-private partnership	Dawson Creek Water Reclamation Project	Water

In 2022, we conducted 8 additional key informant interviews, which included seven participants from the Village of Burns Lake and four participants from the City of Dawson Creek for a total of 11 key informants (see Table 3). These local government key informants included elected leaders, previously elected leaders, Chief Administrative Officers (CAOs) or town managers, economic development officers and managers of municipal enterprises. Participants were recruited through publicly available lists on municipal websites. A semi-structured interview guide was used to explore issues related to the development and operations of municipal entrepreneurial approaches to community and economic development and how these initiatives could potentially support transformative change. This research also explored broader structural and policy related changes to strengthen the capacities, resources, policies, and statutory environments to support these endeavors. In particular, we asked questions about pressures that prompted local governments to pursue municipal enterprises; the factors, contributions and investments that were considered to develop these initiatives; the governance and operational structures of these enterprises; how municipal legislation shaped their development; the risks and liabilities that needed to be managed; strategies guiding the use or investment of revenues generated; and how these municipal enterprises have strengthened the resiliency and path emergence of these communities. Following each interview, notes were provided to each participant for review. Latent and manifest content analysis was completed to identify, code, and categorize patterns and themes that emerged from open-ended questions (Neuendorf, 2016). Both an inductive and deductive approach was used; the latter was based on previous research, and the former was based on patterns that emerged from the data (Fereday & Muir-Cochrane, 2006).

Table 3. Phase 2 – British Columbia Interview Data

Phase 2 - BC Case Studies	Participants
Burns Lake	7
Dawson Creek	4
Total	11

Chapter 4. Case Context

4.1. Burns Lake

4.1.1. Burns Lake Community Forest

Burns Lake is a forest-dependent community with a 2021 census population of 1,659 located along the Interior Plateau of BC in the Bulkley-Nechako Regional District, roughly 225 km from the regional centre in Prince George. In the late 1990s, the community experienced forest industry restructuring pressures that have produced risks for the local economy and municipal operations. This prompted the municipality to develop the Burns Lake Community Forest proposal in 1998 to generate more revenue to address community and economic development needs. Shortly after, the Burns Lake Community Forest (BLCF) became the first community forest in British Columbia in 2000 following a signed agreement with the province and approval of its management plan. Initially, the BLCF was 23,325 ha in size, with an annual allowable cut of 54,026 m3 (McIlveen and Bradshaw, 2005/2006). The size of the community forest would eventually expand to 92,000 ha to log areas impacted by the Mountain Pine Beetle epidemic.

The Village provided several contributions to support the early stages of development. The Village contributed between $150,000-$250,000 (CDN) in hard costs and in-kind costs for corporate legal fees to understand risks and liabilities, office and meeting room space, long distance calls, photocopying, staff time, and consultation. This included the allocation of $150,000 in start-up capital from municipal reserves.

The BLCF is wholly owned subsidiary of the Village of Burns Lake. Comfor Management Services Ltd. was formed as a parent company to address administrative functions of the community forest while the BLCF focused on operations. Comfor Management Services Ltd. is governed at arm’s length by 6 board members, including three community-at-large members and representation from the Ts’il Kaz Koh First Nation, the Wet’suwet’en First Nation, and the Office of the Hereditary Chiefs of the Wet’suwet’en. Dividends generated from the BLCF are equally distributed amongst the Village of Burns Lake, the Ts’il Kaz Koh First Nation, and the Wet’suwet’en First Nation as the BLCF operates within their traditional territory. Key staff members include the

community forest manager, a GIS analyst, and an executive assistant. Due to limited staff resources, tasks such as timber supply analyses are contracted out to larger or more specialized firms in the province.

Harvesting is contracted out to smaller local companies. Roughly 62 full-time equivalent jobs are produced from BLCF activities each year. A silviculture liability reserve fund was established to ensure the BLCF could meet responsibilities to manage the forest until it reached a 'free to grow' status (a legal requirement of approximately 20 years). An operating reserve was also put in place. Revenues have fluctuated over the years due to changing commodity prices, the Mountain Pine Beetle epidemic, and the COVID-19 pandemic. More recently, in 2021, however, strong commodity prices generated strong revenues and $5,296,274 in profits despite lower harvest levels (Comfor Management Services Ltd., 2021). The municipal share of these dividends has supported economic development staff and physical infrastructure.

The availability of funds for a community donation program is also market driven. On average, the BLCF provides between $200,000 and $300,000 in donations each year. These funds have supported food bank operations, a mobile food bus, sports teams, theatre repairs, teen programs and IT staff at the library, high school scholarships, a forest simulator to support high school and college forestry programs, literacy programs, a fire training facility, and a mountain bike park.

4.1.2. Community Forests and Climate Change

Climate change is set to bring about many risks to forests and communities of northern BC. The BC Agriculture and Food Climate Action Initiative's *Climate Adaptation Series*: *Bulkley-Nechako & Fraser-Fort George* report highlights some of those projections, which include warmer and drier summer conditions with an increase in average annual and summer temperatures, an increase in precipitation in all seasons except summer, as well as a greater likelihood of significantly decreased summer precipitation in some years (BC Agriculture & Food Climate Action Initiative (BCAFCAI), 2019). Moreover, the report also notes that rising winter temperature will likely result in a decrease in snowpack and earlier peak stream flows, reducing water supply during periods of greatest water demand. Large-scale changes in land cover due to the

combined impacts of forest management practices, mountain pine beetle and wildfires are also stated as affecting the hydrology and water resources.

These climate change effects are also expected to increase insect outbreaks, fire activity in western boreal forests, dieback of vulnerable species, changes in the forest carbon budget, and shifts in the range of many plant species projected to increase in the coming years (Devisscher et al., 2021; Natural Resources Canada (NRCAN), 2017; BCAFCAI, 2019).

However, Devisscher et al. (2021) found that “community forests [in BC] can play an important role by offering an alternative paradigm, space for experimentation, and provide evidence on the successful use of alternative considerations and practices to forest planning and management that are currently critically needed to strengthen the resilience of the forestry sector.” These benefits were achieved through an approach centered around a more holistic view of the forest ecosystem and managing the resource through multiple values. For example, these values included the management of wildfire risk, protection of water quality and wildlife habitat, promotion of non-timber forest products, recreational opportunities, as well as visual benefits for the local communities. The use of public participation and collaboration between different users and partners was also deemed essential in developing this multi-functional perspective, as well as for building community adaptive capacity (Teitelbaum, 2016). Finally, the non-transferable nature of the CFA created incentive for long-term planning and investments in the forests (Leslie, 2017), including monitoring of forest health was deemed essential to inform adaptive management approaches, although such systems were only beginning to emerge. It was also noted that Abbott and Chapman (2018) pointed to the BC community forest program as an opportunity to increase proactive risk management practices in rural forest communities where “interest and capacity exist”. Nevertheless, an effective reduction of wildfire risks at the landscape level will require the collaboration of multiple stakeholders including different types of tenure holders, land ownership, and jurisdictional authority (Devisscher et al., 2021; Copes-Gerbitz et al., 2020; Abbott & Chapman, 2018; Leslie, 2017).

4.2. Dawson Creek

4.2.1. Dawson Creek Water Reclamation Project

Dawson Creek has a diversified economy in oil and gas, construction, manufacturing, government administration, and services with a 2021 census population of 12,323. The City is located in northeastern BC in the Peace River Regional District, roughly 76 km from Fort St. John and just over 400 km from the larger regional centre in Prince George. In the mid-2000s, the City of Dawson Creek experienced rapid growth and development associated with the Montney gas field. These exploration and hydraulic fracking processes in the surrounding rural regions increased the demand on potable freshwater from the City of Dawson Creek. At the same time, the City experienced environmental pressures from consecutive drought years. There was also an expansion of urban development that intensified pressure on physical infrastructure and potable water supplies.

In response to water shortages, droughts, and rapidly growing demand from industry, the City of Dawson Creek started monitoring how much water was being consumed by fracking and to research strategies to expand the water infrastructure to address these pressures. City staff proposed a possible solution by finding a better use for treated effluent released from the City's sewage lagoons. The Dawson Creek Water Reclamation Facility was developed to take less water from the water supply and make better use of reclaimed water for industry and broader community purposes (City of Dawson Creek 2020). Reclaimed water could also be used for street cleaning, watering soccer fields and ball fields, and water plants.

Following a series of public meetings in 2010, a request for proposals was issued and Shell Canada was selected as a partner for the project (City of Dawson Creek, 2020). Shell invested more than $11 million in the project, with the City of Dawson Creek contributing $1.5 million to the project initially estimated between $12 and $13 million (Hamilton, 2012). The City needed to complete public consultation to obtain public approval for this investment. The costs of the project would increase to an estimated $19 million, with Shell Canada providing additional capital to complete the project. A design committee was formed that included the mayor, senior City staff, and representatives from Shell Canada. Shell receives roughly 3500 cubic metres out of a total of 4500 cubic

metres of the reclaimed water under a 10-year agreement. The remainder of the reclaimed water was available for the City of Dawson Creek to either sell or use for municipal needs.

The P3 partnership agreement between the City of Dawson Creek and Shell Canada expired in October 2022. At this point, Shell Canada's capital investment has been recovered. Shell continues to have access to roughly 4,000 cubic metres of water for the next 5 years, but Shell Canada now pays for access to that reclaimed water. There is potential for this P3 partnership to be transformed into a municipal enterprise, providing an additional $2 million to then be added to municipal revenue annually. Total revenues from sales of reclaimed water will be influenced by the unpredictable boom and bust industry cycles. Shell Canada would continue to be a key customer for the potential municipal enterprise. The pipeline infrastructure established by Shell during the P3 partnership to transport reclaimed water will also provide Shell Canada with an opportunity to purchase water from the City and resell it to other industry stakeholders (i.e. Ovintiv) in the surrounding rural areas.

4.2.2. Water Reclamation and Climate Change

Water resources are at risk from the effects of climate change as precipitation pattern changes, temperatures increase, and extreme weather events intensify. The BC Agriculture and Food Climate Action Initiative's *Climate Adaptation Series*: *Peace* report specifically notes that, for the Peace River region, climate models are projecting warming in all seasons, and the intensity and magnitude of extreme rainfall events is forecasted to continue to increase and there may be longer dry periods in the summer (BCAFCAI, 2013). In fact, these projections call for a potential slight increase in overall annual precipitation, but with increasingly dry conditions in the summer and fall as more of the precipitation falls during extreme events. Further, the report states that precipitation falling as snow is set to decrease which will contribute to drier soils and less snowmelt to feed river flows later in the summer and early fall season, while increasing winter and spring temperatures may also see melt- driven peak river flows occurring earlier in the spring. These new conditions are also expected to cause an increase in dry conditions and lower water supply in summer and fall, in the frequency and severity of drought, as well as increased difficulty with retaining moisture in soils, influencing ground water recharge rates.

This situation emphasizes the need for better water management in the Peace River Region amidst increased resource and community development pressures. Morote et al. (2019) has identified that the use of non-conventional water sources, such as treated water, can increase the resilience of communities facing increased drought. The author found that, since the establishment of these measures in the naturally water scarce region, the need to impose urban water restrictions has decreased significantly. Moreover, the use of non-conventional water has reduced pressures on freshwater resource extraction and solicitated more sustainable use of the local water resource by increasing the efficiency of water usage in the region. Finally, another important benefit of water reuse is the inclusion of these new systems in multi-level, integrated water resource planning, water policy development, and other water resource project contributing to the long-term resilience of regional water supply (Miller, 2006).

Chapter 5. Results

Rural and small town places in Canada have historically relied on natural resources for their economic development and prosperity. Unfortunately, these peripheral communities have also been facing large amounts of pressures due to social, economic, and political restructuring stemming from an era of neoliberal policies which began in the 1980s. These policies have often increased local government responsibilities without providing commensurate fiscal resources and jurisdictional authority further emphasizing the need for solutions to support the resiliency of these places. This situation has triggered a need for endogenous initiatives as industry and senior governments have denied adequate attention to rural renewal, continuing a focus on an expired staples economy policy dated from the 1950s. Consequently, some local governments in rural places have attempted to use their local natural assets to support community economic development as they try to leverage their strengths to support renewal in their own, bottom-up way. This type of endeavor involves significant risk and requires significant resources which rural communities in northern BC find ways to manage as they acquire partnerships and use their networks. Moreover, as climate change adds yet another layer of uncertainty, risk, and vulnerability to municipal operations, managing the surrounding natural resources and the associated risks affecting the sustainability of industry and the safety of these places becomes important to support resilience of their community. They most often do not possess all the necessary capacity to do so autonomously. The role of local government to support resilience under these precarious conditions should also be investigated to develop policy that supports their capacity to solve these issues effectively.

As the first phase of the research project focused on uncovering the impacts of municipal reforms facing local governments and the entrepreneurial and innovative ways they were using to respond to these pressures, I briefly present some of the key findings from phase 1. These findings have been instrumental in developing research questions for phase 2. The second phase of the research investigated the germination of municipal entrepreneurial initiatives, the challenges in their development and implementation and how these projects potentially support the resilience of their municipal operations and places. Indeed, the findings section of this project will provide a detailed description of important themes identified in relation to the case study investigation conducted on the

Burns Lake Community Forest, as well as the Dawson Creek Water Reclamation Project.

5.1. Part 1 – Insights on Rural Reforms

5.1.1. Key Pressures

Rural communities in northern BC have been facing numerous socio-economic changes which have put pressures on local government's abilities to provided services and foster the well-being of their citizens and the resilience of their locality. Municipal stakeholders interviewed identified seven key pressures for small municipalities, including aging infrastructure, broadband infrastructure, housing, human resource pressures, managing service expectations and costs, climate change, and air quality.

5.1.2. Local Government Structure

The structure of local government varied across the case studies included in this study (see Table 1). Each municipality had core services, such as administration and corporate services, finance, protection services, public works and waste management, and recreation. As the size of small municipalities increased, they were more likely to have planning, engineering, transportation, and IT services in place. Tourism was either designated as a responsibility for economic development staff or independent tourism bodies.

The first phase of research also identified that in order to sustain their operational and strategic needs, the small municipalities studied use a combination of internal staff, consultants, and contractors to address municipal responsibilities. However, their staff capacity is challenged by increased workloads related to bylaws, freedom of information requests, and changes to policies and procedures.

5.1.3. Restructuring of Local Government Roles and Responsibilities

As neoliberal reforms were implemented the role and responsibilities of local governments were modified. Municipal stakeholders interviewed in phase one identified 11 areas where there have been changes to local government roles and responsibilities,

including broadband infrastructure, climate change, community development, economic development, planning, housing, indigenous consultation, infrastructure, public safety, regional governance, and services.

5.1.4. Municipal Entrepreneurial Initiatives

To respond to these pressures, small municipalities used different innovative strategies including municipal enterprises, community foundations or legacy trusts, negotiating agreements, leveraging municipal government policies and programs, leveraging investments in human resources, leveraging investments in research and infrastructure, shared services, and regional governance.

Part 2 of this research project provides an in-depth analysis of two cases of municipal enterprises, the Burns Lake Community Forest, and the Dawson Creek Water Reclamation Project. The results discussed next will highlights themes related to factors contributing to their initial development, the challenges local governments faced through the process, as well as community benefits emerging from the initiatives.

5.2. Part 2 – Municipal Entrepreneurial Initiatives

Facing tremendous restructuring pressures, local governments in northern BC have been forced to become entrepreneurial and innovative to respond to growing needs in their communities and increasing responsibilities resulting from senior government downloading. Two of the municipalities chosen for this research project opted to use their local natural asset to support economic development opportunities. Part 2 is separated in five sections representing the main themes of the results of this study namely, the Use of Natural Asset, Risk and Risk Management, Capacities, the Role of Local Government, and Community Benefits, which will be discussed next.

5.2.1. Use of Natural Asset

The use of natural assets by the Village of Burns Lake and the City of Dawson Creek to support their municipal entrepreneurial initiatives is interesting as it demonstrates that small towns can recognize tangible opportunity in their surrounding local natural assets by reimagining their use or reappropriating the management and

benefits of these resources. Although the reason for choosing to use natural assets as part of a municipal entrepreneurial initiative was not explicitly discussed in the interview process, what prompted these municipalities to pursue these initiatives was. Further, this research project aims to investigate the intricate connection between natural resources, rural places, and community resilience and therefore, should attempt to highlight these relationships.

Burns Lake Community Forest

In the late 1990s, the Village was 'really stripped for a revenue stream' to support growing responsibilities exacerbated by Provincial downloading (Participant #7). One participant highlighted hat the Village hired consultant to do an economic development strategy for Burns Lake during this period and that they identified the development of a community forest as one of the objectives (Participant #7). Burns Lake is a community historically based around forestry and therefore using the forest as an economic development mechanism for the community seem intuitive, especially due to the social movement of the time that called for "Peace in the Woods" and more local control of forests in BC. This was also around the time when the Government of BC was launching its new Community Forest Agreement Initiative (CFA). The importance of the forestry sector in the community, as well as the necessity of a new initiative for the Village all contributed to the successful establishment of the community forest proposal.

Additionally, it was mentioned that, prior to the development of the community forest, the Ministry of Forest's district manager was insightful and floated the idea of the community forest to the Village (Participant #7). Indeed, Burns Lake has a small population and forestry professional, including a key Ministry contact in the development of the initiative, have recurrently been elected to serve on the community's council (Participant #4, Participant #5, Participant #6). These social network ties around forestry in the community also contributed to the development of the initiative.

Further, one participant shared what feelings the idea of the project first brought to the community: "[When the community forest was first developed], there was an excitement in the community, and, especially around the council table, that this was something new and different, and [that], yes, we have the risk, and assumed the liability, but it was exciting. And, you know, it just kind of reverberated throughout the community (Participant #4, Participant #5, Participant #6)." Another participant also expressed a

similar perspective, in that some of the feedback received during the initial community engagement sessions was that people felt this was a ‘great idea for the Village of Burns Lake’ (Participant #7). Moreover, another participant explained that recent history of missed opportunities in attempting to create fiscal & economic opportunities for the Village motivated council to achieve success with the community forest (Participant #4, Participant #5, Participant #6). The general enthusiasm and support received from various stakeholders, combined with economic and political incentives influenced decision-makers to act and start the process of creating a community forest and attempt to have their local forest resource directly benefit the community.

Dawson Creek Water Reclamation Project

In the mid 2000s, the City of Dawson Creek was facing pressures on its potable drinking water from multiple angles. As discussed in the case context, the Montney gas field expansion was requesting an increasing amount of water from the City, while development and consecutive drought-years were making the situation ever more dire. Indeed, one participant mentioned that, at the most critical point, there was only 10 days left of potable water in the community due to one its reservoirs needing to be drained for maintenance simultaneously to these pressures occurring (Participant #9, Participant #10). As on participant describes: “The vulnerability for our community on water at that time was really, pretty significant, you know (Participant #9, Participant #10).”

Nevertheless, people at the City saw the opportunity for growth in the oil & gas industry as positive for the community, since Dawson Creek had not historically been ‘an industry town’, prior to this boom (Participant #8). Further, one participant explains the rationale of the council at the time: “We didn’t think it was right, to be using treated potable water for that form of industry (i.e., fracking), even though council was unanimously supportive of the industry itself. (Participant #11).” Nevertheless, one participant highlighted that Dawson Creek is special because it is not built on a lake or river like most cities, therefore people were concerned about the use of the ‘limited’, ‘precious resource’ (Participant #9, Participant #10). Indeed, water was quite a contentious issue for residents and decision-makers at the time.

Indeed, the City had recently implemented a new water conservation bylaw in an attempt to ease the strain on the community’s potable water resources resulting in restrictions on domestic water usage. As one participant explains: “People couldn’t water their lawns or

their gardens, you know, we had to be very careful. The City of Dawson Creek gets their water from the Kiskatinaw River which is about as wide as this table, you know, and about the same color (laughs). […] And so, there was a lot of concern and controversy, I'd say, in the community at the time, before we started talking about the water treatment facility of, 'why are the oil and gas companies taking potable water to drill when I can't water my vegetable garden', right? [...] So it did turn into a huge [debate] (Participant #11)." Similarly, another participant echoed that, while the City took conservative measures in regards to water and that residents were positively responding and understanding of the need for those measures, people were also critical of the City providing fresh water that they were trying to conserve to the fracking industry (Participant #9, Participant #10).

This situation forced the City to find solutions about how provide support to development while at the same time relieving pressure on their municipal drinking water. The City setup a group to work on finding solutions (Participant #8). It was noted that one of the City's leaders came up with idea. One of the participants also vividly reasoned why the idea to use the sewer water appeared to make the most sense at the time: "[…] Really what was happening is everything else was drying up […]. (Participant #11)". These combined pressures on potable water resource, added to a desire by the community to support industry while sustainably managing the resource for the community led to the initial development of the project and the reclamation of local water resource to provide economic benefits. As one participant describes: "The council of the day was not doing it for the money, they were doing it for the ability to conserve water and that the industry could stay and continue to work (Participant #8)." Another participant also clarified that it would be hard to have another project like this one, since there were very specific issues being dealt with (Participant #9, Participant #10). Indeed, the following quote from another participant clearly illustrates this context: "So, it was just that perfect scenario, everybody is trying to work, but there just not enough water out there. […] If it hadn't been a drought year, and if there wasn't the price of gas where it was, I don't think the discussion [around the project] would have happened, because the need wouldn't have been there (Participant #11)".

5.2.2. Risk and Related Risk-Management

The effects of neoliberal reforms and rural restructuring have been applying additional pressures onto rural BC's local governments by requiring that they perform new roles and responsibilities, such as being entrepreneurial and innovative to support their operations. As mentioned above, entrepreneurial initiatives always include a degree of risk-taking and related risk management; a capacity that has not traditionally been attributed to small, rural local governments. Moreover, climate change has also provided its share of risks to local municipal operations and natural resource management. Indeed, there were multiple risks identified by participants for both case municipalities including financial, operational, technological, environmental, procedural, human resource, partnership, and construction risks. These risks and how they appeared, and in some instances managed, will be discussed extensively below for each initiative.

Burns Lake Community Forest

First, the development of the Burns Lake Community Forest required the municipality to engage in significant financial risk. Indeed, the novelty of the CFA and related community forest enterprise structure caused financial issues for the municipality in attempting to acquire start-up capital. The village was required to use their own reserve for this reason due to banks viewing the first community forest of its kind in BC as 'unknown venture risk' (Participant #4, Participant #5, Participant #6), a risk which materialized due to risk of default of the community forest materializing in the first few years as the enterprise struggled to remain afloat (Participant #1).

Second, the community forest created large liability for the Village, exacerbating financial risks, but also creating a new type of risk. All participants either discussed the potential and uncertain liability or the management of that important liability that the town took on through developing the community forest. This liability was in part concerning the silviculture requirement which forest tenure holder must hold to operate in BC. One participant explained this situation vividly: "I don't think that the indigenous communities [and regional districts] were in a position where they wanted to take on any liability originally and I think. We really didn't know what to expect, but there were a lot of concerns played around. What those liabilities could be and what that could potentially mean to the owners of the organization. And so, municipalities, of course, have lots of insurance. […] They have the ability to weather that liability." (Participant #7)". Although

liability can be an issue, this situation demonstrates one strength that local government may possess in managing such risks: their insurance policies.

Third, operational risks were substantial for the Burns Lake Community Forest. Indeed, these risks were highlighted by corporate lawyers involved in the development of the initiative and included the risk related to consensus-based decision-making model required by First Nation partners (Participant #7). The participant explained this issue: “The biggest that we overcame is we were probably one of the first corporate business models just about anywhere that operated on consensus. The corporate lawyers were saying ‘you can't do that. You can't operate on consensus. There's got to be a decision-making structure’, and we said, ‘well yeah, this is the decision-making structure, it's got to be consensus’. That was a fundamental and it was agreed to with our Indigenous partners. It was a non-starter for them. That took us a long time to work through because we knew there would be tensions. There always is whenever you're talking about resources and money. […] What happens if we can't ever get consensus and we've written rights into our articles of incorporation. Then what happens? That was a serious risk for us.” (Participant #7)”. Indeed, it was identified that council had to step in twice to remove conflicting board members, once because there was risk to the relationship with the First Nations partners involved (Participant #7) and another time due to the community forest having lost focus its mission, causing ‘scope creep’ and over diversification (Participant #4, Participant #5, Participant #6, Participant #7). Moreover, operational risk was also put to light in regard to statutory decision-makers directly affecting the operations of the community forest. Indeed, the community forest is dealing with operational or perhaps strategic risk due to decisions about the management of forest resource under tenure agreement to be dependent upon Provincial approval and decision-makers with, sometimes, conflicting viewpoints (Participant #3). One participant also specified that this situation has led to ‘many years fighting’ with the Province in regards to multiple community forests management objectives (although it was said the situation has improved), including wildfire management (Participant #1). Another participant also noted its frustration with a lack of flexibility in management decisions and the lack of delegation towards community-based initiatives: “So, we’ve got all those legislative regimes that are restricting our ability to actually manage the landbase for what it is kind of telling us we should be focusing on, and when you look at the long-term sustainability of an area-based tenure, I can’t go anywhere else, this is it, it’s within those

black lines. The more dry I log, the longer I log that dry, the more green I can leave behind for the midterm timber supply. So, in the last 5 years, my focus has really been to target the dry […]. And [I've had to] challenge that status quo of 'it's in a visual quality retention polygon', OK, who cares? The community doesn't care I've asked them. So, isn't that the basis of what you're supposed to be doing? If the community doesn't care, statutory decision-makers support the decision, here's the rationale, let's move forward, let's leave the green alone, let's target the dry as long as we can. (Participant #3)". This context creates strategic and operational risks for the community forest and perhaps even the community itself.

Fourth, the initiative has witnessed and inherently engaged in significant environmental risks. In fact, the community forest is situated in a fire-dependent forest ecosystem resulting in the initiative, and the community, to be at risk of wildfires. One participant noted that wildfire pressures and abatement was one of the critical jobs of managing the community forest (Participant #1) and another noted that wildfires are an important concern for the community (Participant #3). Wildfires are also an environmental risk for the community due to its potential to burn all the valuable trees and significantly reduce potential revenues, and cause smoke-related health issues. Moreover, pest outbreaks, such as the Mountain Pine Beetle (MPB) epidemic, is yet another environmental risk that the Burns Lake Community Forest must face and as mentioned above the incidence are set to increase with climate change. Although the temporary increase in Annual Allowable Cut (AAC) triggered in an attempt to suppress the epidemic resulted in a short-term increase in revenue for the community forest, they were forced to log more than would have been strategically preferrable (Participant #2). One participant also described how the community and the community forest enterprise perceived this risk: "[During the restructuring period], there was some key things that [the board] wanted to answer locally. We were quite concerned that the end of the mountain pine beetle era was gonna create this lost opportunity and [that] we're just going to be sitting ducks, for lack of a better term. […] There was fear in the community that there wasn't gonna be no forest industry, and so, we wanted to demonstrate to the community that, no, an area-based tenure is a long-term tenure, it's a 25-year renewable, but it's really a 99-year lease in the context of how long it's there, we do everything in the context of setting it up for the future generation, right? All our forestry activities are sort of in that frame of mind. (Participant #3)." Indeed, these widespread concerns resulted in

the board and local First Nations to endorse a request to significantly expand the tenure and forced the board to rethink about the long-term strategy (Participant #3). This period also resulted in the shift to the Burns Lake Community Forest later pursuing the Forestry Stewardship Council (FSC) certification, and related investments on the land base including ecosystem monitoring and data acquisition such as habitat assessment, and stream inventories which continue to this day (Participant #3). Nevertheless, the FSC certification was mostly initiated in order to benefit from its framework for effective consultation based on the United Nations Declarations on the Rights of Indigenous Peoples (UNDRIP) (Participant #1, Participant #3). As one participant notes: “If you just follow the FSC regulations, you’re dotting all your ‘I’s and all your ‘t’s, because you are already communicating with the public and with the First Nations partners. You are already ensuring that you are not taking more than should be put back, you know […] (Participant #1).”

Indeed, a fifth risk relates to social cohesion with local First Nations resulting in associated procedural risks. As noted above, it is crucial for the community forest to be in good terms with all partners to ensure the success of the consensus-based decision-making community enterprise. The importance of the relationship with partnering First Nations cannot be understated and was mentioned by multiple participants as key to the success of the initiative. However, these risks were exacerbated at the time by past strained relationships between the Village and Burns Lake Band noted by multiple participants and “it took a long time build that trust and just to share that responsibility” (Participant #4, Participant #5, Participant #6, Participant #7). Moreover, it was identified that there was significant risk associated with adequately consulting First Nations, as there was a lack of local experience in that domain, many partners to consult and a tight Ministry deadline (Participant #7). Moreover, another participant clarified the importance of the FSC framework to manage this type of risk impacting the community forest operations, highlighting the challenge of working in a territory shared by 6 different First Nations as another reason why the community forest went towards the FSC certification and adopted UNDRIP (Participant #3). The participant also added that “[They] adopted UNDRIP [as] it was a good conduit and a good ability to have those conversations at the community-level about engagement, about not consultation, but actual engagement. (Participant #3)”. Indeed, the development and operation of the community forest are

highly dependent upon high levels of social cohesion, which consequently becomes an important factor to consider in supporting the success of these initiatives.

Finally, human resource risks were highlighted by some participants. One discussed the remoteness of Burns Lake, combined with a demographic problem in the forest industry and a lack of sufficient graduates and overall interest in the forest and natural resource sector contributing to a difficulty in fulfilling human resource capacity needs (Participant #3). Other participants also noted concerns with institutional memory in municipal staff to allow for the successful development of municipal entrepreneurial initiatives (Participant #4, Participant #5, Participant #6).

Dawson Creek Water Reclamation Project

First, the Dawson Creek Water Reclamation Project involved a high degree of construction risk due to its highly innovative approach as it pertains to a partnership between an oil & gas company and a small municipality, as well as with the technology involved (Participant #11). It was highlighted by a participant that most risks occurred related to construction (Participant #11). Indeed, there were some concerns that the biological component of the system wouldn't function properly due to the cold climate of Dawson Creek (Participant #8). Construction risks and uncertainties in themselves also brought along multiple challenges, especially regarding the partnership.

Second, due to the innovative nature of the project, as well as the high level of water quality required by the industry (one level below potable standard) it was quite difficult for the City and Shell Canada to agree on costing of the project, which resulted in significant partnership risks. The following quote from a participant describes the situation: "[…] Originally, when we costed it out, we said 'this is probably gonna be about 8-9 million dollars', when they costed it out, it came back at something like 17 million, because of the way all of the stations had to be built in order to get to the clarity level that they required. […] Again, cost started being an issue, as it normally does. So, we ended up getting a call, from basically their lawyer, saying that they're pulling out, that, 'no, too cost prohibitive, it doesn't make sense anymore from a financial standpoint' […]. So, at the time, we started panicking, 'cause we thought that this was something that had to be done as a city (Participant #11)". This tense situation led to leaders from the City to intervene in an attempt to save the partnership (Participant #8, Participant #11). The partnership risks mentioned above are also related to the different mindset and

objectives of municipalities and a P3 partner, as one participant described the former as being focused on longer-term community well-being benefits, while the former being more attuned to shorter-term shareholder returns (Participant #11). Moreover, this same participant noted the potential risk associated with the shorter investment horizon of corporations: “They are different than municipalities, right? […] And, because of that, it’s easy for a P3 - it could be a great project - but if they see that it’s not happening soon enough, they’ll take their money somewhere else (Participant #11).”

Third, the City of Dawson Creek engaged in significant financial risk as it borrowed funds to be able to support the development of the project. A few participants noted that the City had already committed about one million dollars when the final agreement was reached with Shell Canada (Participant #8, Participant #11). Indeed, this financial position caused the leaders to become quite ‘politically committed’, as one participant noted (Participant #11). Shell Canada had also performed their due diligence since on participant highlighted that they initially wanted water for much longer thinking about their own financial risks (Participant #11). Indeed, financial risk was important in this project due to the relatively long break-even period translated in the duration of the partnership agreement for the City to provide ‘free’ water to industry. However, one participant explained that more flexible grants could help municipalities take on such financial risks with more confidence, for example, if the City could have asked, prior to starting the development of the project and submitting their RFPs, if they qualified for a grant and further that “If you don’t get approved, then, […] you lose the window with your P3 partner” (Participant #11). The preceding sentence highlighting the importance of timing also suggest that risks regarding project timeline was, yet another risk encountered in the project, albeit perhaps unperceived at the time, and can be categorized as procedural, while also exacerbating financial risk.

Fourth, there were procedural involved in the project. These risks relate to the community’s ability to match P3 partner’s deadlines and expectations, as well as social cohesion in the community in order to gain approval of the electorate for the project. One participant explained that the City had gone to the public to ask if they could borrow money for a project the year before and the proposal got turned down, which made them aware that they could not accomplish it on their own and that the public would probably not support borrowing large sums of money to finance the project (Participant #8). It was also specified that Shell Canada did not understand this legislative requirement, further

reinforcing the difference in institutional mindset (Participant #8). Indeed, the aforementioned statement explains that there were significant risks associated with the community potentially have turning down the project, while the City had committed significant cash. In fact, one participant explained that, from a political standpoint, managing public expectation is key to the success of such initiatives (Participant #11). On that note, although there were some negative public opinions, mostly from the trucking industry facing a loss of business, it was mentioned that the people generally understood the need to support the growth of this industry for the benefit of the community, especially since 'the community is reliant on oil & gas' and that there was little public resistance (Participant #8, Participant #11).

Fifth, there was also significant liability risk from the project due to the City acquiring an asset and having a responsibility for its operation (Participant #8). Further, Shell was also concerned about the City not being able to provide the quality requirements which they required for their fracking operation (Participant #8), emphasizing some tension in regard to liability risks between both parties.

Sixth, there were some environmental risks related to the development of the project. Indeed, it was also mentioned that the environmental pressures and the accompanied operational risks from a lack of water availability tipped the scale in favour of the City and the partnership for Shell (Participant #11). This suggest that risks facing Shell Canada financially benefited the community, as it increased the perceived value of the initiative for the company. Moreover, environmental risk was perceived by the City and the Ministry of Environment in regard to not discharging enough flow into the creek and that "In the case of a drought, […] the Ministry maybe [could] ask the City to discharge more into the creek, since the discharge was considered part of traditional creek flow" (Participant #8), the latter reducing the amount of reclaimed water available to the City.

Seventh, one participant highlighted risk of further provincial downloading emerging from the development of the initiative. It was also highlighted by one participant that a big concern for municipalities is that when municipalities begin to engage resources into an issue, that the Province may say that they are not funding it anymore (Participant #11). This issue was highlighted by participants in phase one of this project and guided some of questions asked in phase 2 in regard to potentially

malicious involvement of senior government in municipal affairs and especially, affairs regarding the development and benefits accrued from municipal enterprises.

Finally, one participant explains technological risk associated with the project and development of water recirculation processes by the fracking industry: “[The] evolution of the industry [is that] now they are using produced water, right? So that flowback of produced water is being reused by the industry, so the technology of how industry is using water is a completely different game today than it was 10 years ago or even 15 years ago. I don’t believe that Shell would even invest probably 80 or 100 million bucks into this project today knowing how the technology has evolved (Participant #9, Participant #10).” Indeed, the water reclamation facility was built specifically for the quality and quantity requirements of the oil & gas industry. Therefore, if the industry were to no longer need the water from the plant, the City would need to find new uses for the facility and the water it produces.

5.2.3. Capacities

Rural local government are limited in the capacities they possess and often need to rely on external support to bring community development projects to fruition. These municipal enterprises were no exception, while both communities also stretched their own resources to support the development of these local innovative initiatives. The following section will illustrate how internal and external capacities were used in the development and operational phases of the projects, as well as how initiatives contributed to capacity building in the communities.

Burns Lake Community Forest

First, as previously mentioned, the Village of Burns Lake relied on its own financial capacity to support start-up costs related to the Burns Lake Community Forest. Moreover, they provided a significant amount of in-kind support to the project. In fact, the Village provided office space to the community forest for the first 6 months and shared usage of administration equipment (Participant #4, Participant #5, Participant #6).

Second, many participants discussed how the municipal enterprise also benefited from significant human resource capacity support from the Village in its the initial stages of development (Participant #4, Participant #5, Participant #6, Participant

#7). It was explained that local government staff specifically provided administrative capacity support to the community forest for their first 5 years, including financial reporting (Participant #4, Participant #5, Participant #6). On that note, one participant shared that “It was like two full time jobs for a long time until [they] finally were ready to bring finance in-house [at the community forest]” (Participant #4, Participant #5, Participant #6). Indeed, the significant human resource capacity support provided from the Village to the municipal enterprise was not sustainable and needed be replaced by more permanent solutions. Indeed, the Village created Comfor Management Services to address the administrative functions of the community forest while the Burns Lake Community Forest focused on operations (Participant #4, Participant #5, Participant #6). It was noted that staff at the Village was ‘happy to shed some of the workload’ (Participant #4, Participant #5, Participant #6). Indeed, the community forest witnessed some internal capacity building as the operation grew and that the community forest was able to hire staff.

Third, the Village required accessed external technical capacity support to develop the CFA proposal. Of note, the succeeding Ministry of Forest District Manager was referenced by one participant as being particularly helpful: “[The District Manager] who is a long-time pioneer family in this community, who knows this area inside out and who knew exactly where there was available Crown land that could easily be incorporated into the community forest and I think that he also worked behind the scenes for a year or two when there was swapping of tenures. It’s like, ‘this polygon over here, we’re going to move it over here because then that’s going to free up this space over here' (Participant #7). Further on Ministry of Forest staff, this same participant followed saying that “I think there was a considerable amount of strategizing that happened with people who knew that this was coming, supported the vision of it, and we're in positions that could do it just as part of their regular work (Participant #7)”. Indeed, the Ministry of Forest staff was noted, more generally, as having provided some expertise ‘on the down low’, contributing to a successful application (Participant #7), while the Village as able to access information on how to do a forest management plan from a ministry contact involved in the original steering committee (Participant #4, Participant #5, Participant #6).

Fourth, the Village also had to request advice from multiple external sources regarding the legal and fiscal requirements of setting up the municipal enterprise. One

participant highlighted the need to get legal advice in regard to the arm's length corporate structure and liability and that 'legal help is costly' (Participant #4, Participant #5, Participant #6). Indeed, one participant notes how having access to resources through senior governments would have been beneficial to the small municipality: "It would have been helpful for sure. With things like a corporate lawyer, they can talk to you about tax structures and, you know, decision-making models, would that have been helpful, yes (Participant #7)." However, the Village was able to access some 'free' advice through strategic networks, including through the Municipal Finance Association and GDOABC (Government Finance Officers Association of British Columbia) regarding risk and liability and Ministry of Municipal Affairs regarding taxation (Participant #7).

Fifth, the community forest also required external capacity to support the operation and strategic management of the area-based forest tenure granted by the CFA. Indeed, one participant noted that "When you get into high level professional forestry stuff, obviously we don't have that expertise here, so that would have gotten, you know, farmed out to some of the bigger guys in the province, more experts in their area, whether it's timber supply analysis or stuff like that. (Participant #3)". Although some key services have to be acquired externally, the same participant shared that a large portion of the money spent on the required technical services, such as environmental assessments, was locally spent (Participant #3).

Finally, in the case of Burns Lake, the First Nations capacity support cannot be understated. This participant explains its importance in the initial stages: "Well, without [our First Nation's representative on the original steering committee] we would have never got it done, I can tell you that. We would never have, I mean, [he] did a lot of work for us to be able to have support from the indigenous community. There's just absolutely no question about that. (Participant #7)." Moreover, local First Nations are directly involved in the management of the community forest. One participant explains some of their involvement: "[…] We can have the elders from our [local] First Nations communities come out onto the landbase with us, you know, if we are looking at an area that needs to be harvested and it has a lot of, cultural activities, like berry picking and stuff, then we do consultations, they help us pick were to put the next patch or how to get it back onto the landbase for them (Participant #1)." Active First Nations involvement is essential to the Burns Lake Community Forest's FSC certification and is also fundamental to the consensus-based decision-making principles of the CFA suggesting

that significant capacities are required from local First Nations for the continued success of the initiative.

Dawson Creek Water Reclamation Project

First, the City of Dawson Creek used its internal financial debt capacity to support the initial development of the project. In fact, the municipality borrowed $1.5M from the Municipal Finance Authority for the endeavor (Participant #11). Moreover, the City had to support the operation of the plant at an average yearly cost of $150,000 without any guaranteed revenues returning from this expense (Participant #8, Participant #9, Participant #10, Participant #11).

Second, the Dawson Creek Water Reclamation Project required internal human resource capacity to solve the water issue on the municipal potable water supply. Indeed, City leaders and staff had to work together as a group to find a solution (Participant #8, Participant #11). Hence, the City used their own problem-solving and research capacity to jumpstart the project. Referring to the use of internal human capacity generally, a participant further explained that City staff were used to obtain the necessary expertise, research, and information to some extent, while they still required additional support from more knowledgeable groups (Participant #11). However, a particular staff member has been identified as particularly important in the development of the innovative project and is illustrated by this quote from one participant: “We had some key people inside. I had a long-serving […] manager who was working [in the department] and who was very, you know, lots of experience and very smart, and so he certainly helped with that process and just understanding, and trying to come up with […] the technical side of how we could treat this and how we could get it to where we wanted to go (Participant #8).” Further, it was also highlighted that the idea for the SAGR technology used in the water reclamation plant was recommended by staff (Participant #8). Moreover, it was also highlighted that, at the time, Dawson Creek had a level 4 water manager, and that usually large metropolitan areas have that kind of capacity (Participant #11). Indeed, these statements suggests that the City had impressive capacities in terms of water infrastructure management at the time of development of the initiative. Multiple participants explained that this capacity influenced the ability of the City to keep the management of the initiative in-house (Participant #9, Participant #10) and support their commitment to Shell Canada (Participant #11). However, it was noted

that the City still had to invest in hiring and training staff when the plant began operating (Participant #8). Also, one participant said that “People have come and gone, but the training has continued (Participant #11)”. This last statement also suggests that institutional memory has been retained in regard to the management of the water reclamation facility, an assumption that was confirmed by participants (Participant #9, Participant #10). Indeed, it seems that the water reclamation facility’s operation was well within the capacity of the City and still is today.

Third, the City of Dawson Creek also benefited from its own legal capacities. One participant noted that the Municipality has their own legal team which reviewed the partnership agreement to identify complaints and potential liabilities (Participant #11). This team may have been solicitated quite a bit during the initial stages of the project, and one participant vividly explained why: “We had to have some pretty robust agreements. I spent a lot of hours on the phone with lawyers working through that sort of stuff, right? And exactly [because of] that, I remember there was concerns on both sides about that commitment [aspect] (Participant #8).” Moreover, lawyers were reported to have suggested that the City formalizes its Request for Proposal (RFP) for the initiative itself to be formalized (Participant #11). On that end, an elected official at the time initially called oil & gas companies to see if they were interested in partnering with the City on the project, further reinforcing the use of internal human resource capacity to jumpstart the initiative (Participant #11). On the other hand, the fact that the City decided to reach out to industry to support the project also point to external capacity requirements.

Fourth, all participants spoke about the fact that Shell Canada as being fundamental to the success of this municipal entrepreneurial initiative in providing financial and technical capacity which the City was lacking. One participant clearly illustrates the latter need: “Obviously, small municipalities don’t have the capacity for a lot of this stuff. […] We didn’t have that internal knowledge base to be able to do it, but really, once the decision was to go out back to the RFP, that’s one of the reasons why we chose Shell as well, because Shell came in with a lot of ducks lined up they did their background research, you know, they had obviously a whole department that just said, ‘hey Dawson Creek is thinking this, might work for us’, and they came with a presentation and they had done a lot of that work to say, ‘the water level need to be at’… for the chemistry of it, you know, they had already mapped out the idea of a pipeline,

and really did a lot of that technical stuff that we didn't have the capacity to do. (Participant #11)." Another key reason for the City to pursue a P3 partnership with Shell was they were not financially comfortable enough to be able to spend close to ten million dollars (the original estimate) only to support the oil & gas industry (Participant #11), which Shell was able to provide to secure water availability for their operations. Additionally, a participant noted the importance and opportunity of such a P3 partnership for the municipality: "[…] We didn't have the internal resources, funding, to do it, so, that's why we reached out to industry itself, right, […] and we didn't even think about it as a P3, like, I don't know, I don't even remember ever saying, 'eh, this is a P3 a project', and it's not like that was new at the time, I think it evolved into that. […] So maybe had we [thought about it], on the onset, we'd have been able to find some different resources and think about it in a different light […] (Participant #8)."

Finally, participants also noted several other external actors as contributing the development of the Water Reclamation Project in regard to legal, environmental, and technical requirements. It was highlighted that the City's internal legal team contacted the Province to ensure that 'no rules were broken' and if the whole process was legal from a municipal standpoint (Participant #11). The Province was also involved through the Ministry of Environment regarding the City's discharge requirements (Participant #8). Also, multiple consultants were hired to work on the project. Moreover, consultants were also hired to ensure the proper design and reliability of the system (Participant #8).

5.2.4. Role of Local Government

As mentioned above, the typical role of local governments usually did not involve entrepreneurship until more recently, when senior government downloading, and withdrawals has steered local governments to find innovative ways to support their services. However, they have always had to respond to immediate environmental challenges affecting their community, such as droughts. Moreover, these local institutions are to represent local concerns and aspirations (Douglas, 2005) and foster economic development planning to support the local tax base. The role of the local institution is indeed considerable in providing sustainable environments for their residents.

As witnessed by the results discussed in the previous sections, Burns Lake and Dawson Creek's local government staff, elected officials, partners, and related institutional capacity all played a role in the development of these municipal enterprises. The impact of the local institution was also reflected in multiple aspects and phases of the projects including public engagement and the management of public expectations, the distribution of benefits, leadership, as well as facilitating connections between stakeholders. The following section will illustrate the ways local governments used their capacities to fulfill these roles and how these actions were described by participants.

Burns Lake Community Forest

The Burns Lake Community Forest is the result of extensive community consultations that enabled members of the original steering committee, with the help of the community, to create a unified vision for the new initiative. The Village facilitated connections between stakeholders by first, establishing an 'original steering committee' to develop the proposal and included the Village's economic development coordinator, a municipal councillor, a First Nations representative, 'two forestry people ex officio', two industry stakeholders, one other person, while a representative from the Ministry of Forest was also involved (Participant #7). Indeed, the Village brought people together to develop the initiative which increased collective capacities.

Moreover, a lot of work was put into evaluating and debating public concerns and values. One participant describes the extensiveness of the public engagement period, saying that it was 'long', and lasting about six months to a year (Participant #4, Participant #5, Participant #6). The Village also ensured that their staff were responsible for this important task. In fact, the newly appointed economic development coordinator was given the responsibility to conduct public engagement and public relations with multiple stakeholders in the community around the community forest (Participant #7). Indeed, the Village's duty of accountability towards the public was reflected in their commitment to ensure that public concerns were adequately taken into consideration in the development of the CFA proposal through extensive, Village-staff-led public consultations.

Public expectations regarding the community forest were also set during the initial public consultations period. One participant describes it: "[…] [People didn't] want [the revenues from the community forest] to go to pay for roads and sewer and garbage.

That was a really strong message that came from, not just one, but I would say, multiple stakeholder sessions that we had and it's interesting because, from a marketing perspective that sentiment stuck. So that was something that really dogged the community forest and the Village of Burns Lake in their relationship, because it was always in the back of our mind… 'we can't use this community forest income generating machine to supplement municipal taxation revenue to pay for things like roads and streets and things like that'. […] [People wanted] it to go for things like enhancing recreation opportunities and enhancing educational opportunities on the community forest land and this and that…. and making it more equitable for small businesses to compete with the majors. So, there was all sorts of visionary statements attached to that, where it was like this isn't just a cash cow for the Village of Burns Lake (Participant #7)." This widespread concern was included in the community forest policy which now distributes a percentage of their profits to the Village to be distributed as community grants (Participant #1). Moreover, a participant highlighted the Village policy restricts this donation money to be used to fund infrastructure (Participant #1), thereby reinforcing the social character of the fund. However, another fund has also been established out of those donations to fund larger, more lasting projects (Participant #1). Nevertheless, most participants stated that the revenue from the community forest has allowed the Village to pay for some infrastructure upgrades (Participant #1, Participant #2, Participant #3, Participant #4, Participant #5, Participant #6), which signals that the public's original vision for the venture may have only been partly accounted for by elected officials. Currently, the way the Village manages the distribution of community donations is by engaging the public regarding how to the Village should invest community funds at annual community fairs (Participant #1). Another participant also describes how the Village manages how to invest its dividend: "We set [the funds received from the community forest] immediately into a reserve and then council decides when they look at the budget each year how they're gonna spend that or if they're gonna spend it or if they're gonna use it to leverage other funding or if they are gonna use it for economic development or they're gonna use it for infrastructure, whatever, that's just comes forward usually from recommendations from staff, but, it will be determined every year when we do the budget." (Participant #4, Participant #5, Participant #6)."

Although distribution of benefits is now structured, one participant noted that some political challenges have surfaced in the past: "When the revenues went to the

Village of Burns Lake, there was no strategy specific that was put in place. There was shifting sand depending on who was on Council. So that strategy changed every four years with the change of council (Participant #7).” Another noted that political issues have been encountered around ownership and funding allocation (Participant #2) In this case, the role of the Village is not in managing the community forest, but in managing how benefits from the entrepreneurial initiative benefit the community.

The Village also acted as a source of leadership for the project. Indeed, in the first few years of the municipal enterprise, some of the board members were council members (Participant #4, Participant #5, Participant #6). Now, the Village appoints community-at-large board members, but council members cannot sit on the board. This role of local government provides indirect leadership to the community forest, while it provided direct leadership in the past. Further, this leadership role is emphasized by one participant describing cases when the Village had to force a readjustment of the municipal enterprise to support its sustainability: “The first time there was a change in the board, that, you know, people were released from their positions as a board and the municipality reappointed board members was because there was this sort of scope creep happening, […] and then, there was another time we had a staff and board that we're not as appreciative to have the relationship that we had with the Indigenous communities [and created significant risk to that relationship]. And so, there was a wholesale change on board and staff, and that was also not easy, so there has been some significant struggles over the years (Participant #7)”. In this way, the Village acts not as manager, but as an owner and steward of the municipal enterprise and the related community benefits.

Dawson Creek Water Reclamation Project

The Dawson Creek Water Reclamation Project was achieved through a unique combination of circumstances and actors. As mentioned above, this project may not have been possible otherwise. The role of the City of Dawson Creek in the development of the initiative was first reflected by a need to manage public expectations around equitable and sustainable water usage while ensuring the sustainability of the emergent, but important oil & gas industry in the community; a theme also discussed earlier. This situation reflects the responsibility of the City to be accountable to its constituents. One participant explained that “Once it looked like they were going to do it, for sure, we also

did some community town hall meeting ensure that the community understood what we were doing, the benefits and the purpose […] (Participant #11)". The same participant also clarified that these public meetings and consultations were the responsibility of municipality (Participant #11). In this way, the City engaged with the public and ensured that concerns about the project were heard and debated.

Moreover, the role of local government in managing public expectation was reflected in the use of the P3 partner to solve the water crisis, while producing other co-benefits for the municipality. One participant describes this tension vividly: "You can think of what is the responsibility of local government too, right? And so, to partner with, and try to build capital infrastructure that's gonna help industry it's really not in your mandate. It's water, sewer, roads, art centres, things like that, right? So, I believe that sometimes these P3s can be a huge benefit to get something that otherwise your community never would see. (Participant #11)." Indeed, it seems that the role of local government in this case was also in finding the right balance between risk-taking and managing public expectations.

Another key role that the City of Dawson Creek played in the development of the P3 partnership was that of leadership. Indeed, it was one of Dawson Creek's elected officials that came up with the idea. This role is reflected in this quote by one of the municipal leaders involved in the initial stages of development: "[You] just [have to] be creative, because there lots of times there are solutions to many of the problems, sometimes you just have to ask or think about it, right? Because, again, until I kinda said 'why can't we use that?', you know, the answer at first was 'no, we can't', well, how would we?' and then you do a little bit of the digging, right? And, every municipality has different challenges and different benefits, geographically or climate whatever it may be, sometime you just have to think outside the box. […] The whole point of getting elected and being a mayor or a councillor is to try to come up with ideas to help benefit the community (Participant #11)." This visionary aspect is also highlighted by another participant who said that "The council we were dealing with at the time was extremely, they wanted to be leading edge, 100%. By being leading edge, you know, you are not averse to risk. And at that point in time, the community had elected those individuals and supporting it, so they felt that they had a pretty good leash on that right (Participant #8)".

This role of leadership and vision was also translated into the negotiation of the partnership agreement which, in the initial discussions, could have resulted in much more limited potential benefits for the municipality if leaders would not have seen it through. The following statement illustrates this aspect of the project: "[…] Municipalities aren't working towards retirement, you know, we're not looking for, 'how do we save up enough money so at some point we don't do anything anymore and we're done'. We always have to be thinking of, you know, the community growth and 10 years, 20 years, 100 years down the road […]. I think, through the discussions and through the contract, that's when we started having the visionary [aspect] kind of taking place. […] It wasn't until when the company came forward and said 'this is what we can do', and we started saying 'well just a second here we can't give, in perpetuity, water, just 'cause you wanna pay for all the capital. So, [through negotiation, we ended up that], after 10 years, the City [would] have a right of refusal, and they agreed since their capital cost was paid off by that point (Participant #11)." Further, one participant described the most recent negotiation with Shell surrounding the partnership: "[Shell] would like to renew. Our council said 'no thanks!' You know, no offense, but this is now our opportunity to take a little bit more of that reward, and revenue (Participant #8)." Indeed, it seems that the original vision for the project to benefit the community has lasted the test of time. The leadership role taken by the local government in negotiation can also be linked to the role of managing the distribution of benefits between both partners and indirectly, the community.

As described above, Shell first thought that the project was too expensive and not financially viable in their view. There were multiple elements that made them change their minds, but one of them is the determination of the City and its leaders to pursue this project. In fact, as mentioned above, one participant stated, in relation to the moment when Shell wanted to retract from the partnership, that "[They] thought that this was something that had to be done as a city (Participant #11)". This determination led one of the City's municipal leaders to meet with the President of Shell Canada and provide the pitch of benefits associated with social license and community and environmental benefits (Participant #11). They had to work hard to convince the shareholders of the benefits associated with the project and that it was 'the right thing to do' (Participant #11). Through a series of meetings, participants noted that leaders in both organizations were able to agree about the values and benefits of the projects which led to better

working relationships and a successful partnership. In this sense, the role of the local government was to facilitate collaboration between Shell and the City to ease negotiation and allow for optimal circumstances in working towards a guarantee that the community did not lose the sunk costs it had incurred and achieve the project objectives. In fact, one participant highlights the role of local government leaders in ensuring the community benefits from the regional natural resource sector: “I mean, the ability to work together, and industry has treated us well over the years, I think, not without some challenges, but overall, it’s always been, you know, it’s about community. You impact the region as a whole, how do we get a return from you to make sure that the residents in the region are benefitting from all of this outside of just jobs. I mean, that’s a big part too. (Participant #9, Participant #10).”

5.2.5. Community Benefits

Fostering the well-being of local constituents can be seen as one of the responsibilities of elected officials and their organization. The creation of municipal entrepreneurial ventures is often for local governments to create benefits for their local community. Indeed, economic, social, and environmental benefits, as well as institutional learning, has emerged from the initiative studied and will be shared in the following section.

Burns Lake Community Forest

As mentioned in the case context, the Burns Lake Community Forest provide yearly revenues to the Village of Burns Lake through the dividends it distributes. The importance of these revenues for the municipal operation is described by one participant: “[…] It’s the only funding we get that there’s just zero restrictions on it, everything else, every other funding we get we have a ‘rule’ on how to spend it so, it’s really nice to have that, to have that funding. […] [It has been a benefit], oh, 100%! We’ve been able to do a lot of projects that wouldn’t have been able to do or studies, or, plans, all sorts of things that we’ve been able to do because we’ve had that funding. […] We wouldn’t be where we are today if we didn’t have it […] We don’t have any industry within the municipal boundary, and so, the community forest has started to fill that void (Participant #4, Participant #5, Participant #6).” These economic benefits have led to many initiatives being supported in this small community that other communities of that

size may not be able to afford without a major industrial player within municipal boundaries. Moreover, one participant highlighted that the arrival of the first dividends to the Village on the seventh year of the initiative, “that’s when [the Village] finally did away with grants-in-aid (Participant #4, Participant #5, Participant #6)”. This further suggests how the revenues from the community forest has relieved some pressure on the municipal budget and has allowed the Village to be more financially resilient. Further, the community forest has increased the Village’s financial capacity, since the Village can now demonstrate credit worthiness by demonstrating that they have the community forest worth $13 million in equity to cover in the event of default (Participant #3). However, one participant noted that the current framework for distribution of revenues from the community forest is not sufficient for the Village to pursue transformative projects (Participant #2).

There are also trickle-down effects from the community forest operations in the local area. One participant quantifies some of these local economic benefits: “On an annual basis […] we’re doing anywhere from 5 to 10 million in gross sales. 85% of that is locally spent, so that’s a considerable amount (Participant #3). They produce over 62 full-time equivalent and can also provide support to contractors, by providing a training venue or other types of support (Participant #3). This direct economic involvement results in an enhanced local forestry sector. From these locally spent dollars, economic benefits are expected in other sectors, such as services and retail, through local spending by residents and people working in the area.

Additionally, the community forest has resulted in some degree of economic diversification for the local economy through the donation of significant start-up support to the Mountain Bike Association for the development of the Mountain Bike Park which has become a significant tourist attraction and recreational infrastructure for the community. One participant highlights this contribution: “The Burns Lake Mountain Bike Association, BLMBA, probably wouldn't exist if it wasn't for the onset of the community forest seed money that they’ve received. […] They received the half a million dollars to get that going, hire the experts in order to design that trail system […] (Participant #3).”

As mentioned in the Case Context section, the community forest also provides significant donations to local non-profit organizations. These donations can also be categorized as creating social benefits in the community as they support organizations

that mostly foster social programs. Through these donations, the community forest also increases the Village of Burns Lake's safety. One participant explained that the community forest provides funding in order for people to get certified for firefighting training and that this process will strengthen the community's emergency preparedness (Participant #1).

Regarding fire-related safety, the active wildfire management by the community forest also fosters the safety of the community. This statement by a participant demonstrates the level of commitment of the organization: "We wanted […] to log this [section for] fire hazard, 'well, you can't do that', 'you can't do this 'cause it's in an LCM, and this is a visual quality objective' – OK – but the whole hillside that is about to take our town out, and historically it has happened before, and that is [about to] repeat itself, you know, […] so let's just let the landbase rejuvenate itself. Now they are in play, but, it took years for us to be able to protect our community (Participant #1)." (Participant #1)."

Another social benefit that has been achieved through the development of the community forest was the restoration of the relationship with neighbouring First Nation communities. This intimate relationship facilitated by the community forest governance policy was illustrated by one participant: "[…] [Maintaining relationships is our] #1 priority, I mean if [we] don't have good relationship with the indigenous community, we are never going to move forward, you know. […] Everybody assumes it's all about the money, all the time - ooohh just looking for another check, tantadam – it's not actually true. No, they want you to hold their grand'ma by the hand and take them out to the berry patch and make sure if we relocate here, it's gonna be OK. If she's been pickin' berries in the woods for 80 years, you know, it's about making sure the kids have the same opportunities as the rest of the kids, it's about making the community a whole […]. (Participant #1)." This engagement process, supported by the structure put in place through the FSC certification, has enabled the community forest to rebuild trust with local indigenous communities which may also allow partnership opportunities to emerge has they have in the past. In fact, this renewed productive and respectful relationship was reported as having been an important factor in the successful request for the expansion of the community forest to the Province (Participant #3).

Moreover, the operation of the Burns Lake Community Forest fosters environmental benefits for the community. As the MPB epidemic worried the community

about the sustainability of previous strategic objectives of the community forest, new management objectives were put in place which allow for ecosystem services to be sustained more effectively. This quote by one participant exemplifies the new philosophy: “[When implementing the FSC requirements], we are creating a resilient landbase […]. So, if you just follow the rule, it’s really simple, because then, it doesn’t matter who sits on this board, or who’s hired, if they, they all have to follow those same principles in order to maintain the certification, so even if the people change, the principle of how the forest is managed won’t, unless they give up their FSC certification, so its long-term stability and sustainability. […] We are doing all these things (i.e., selective harvesting, investments on the landbase, First Nations engagement, habitat monitoring and protection, etc..) realistically to show that we didn’t inherit the landbase from our ancestors, we’re actually looking after it for our children. And, whereas the old forest mentality, like, say, within the Ministry and those volume-based tenures, is like, just cut a block and get out of there (Participant #1)”. This statement demonstrate that the community forest enterprise fosters a more integrated approach to forest management compared to traditional forestry operations and supports a long-term vision in its decisions. It was also discussed above that the community forest is continually making land base investments in monitoring ecosystem health which further ensures more holistic landscape management objectives are achieved.

Finally, the development of the Burns Lake Community Forest has produced institutional learning benefits. Indeed, the Village is now developing a new economic development corporation and local government staff and elected officials have gained confidence in developing municipal enterprises. One participant explains how it gave the institution more confidence to pursue similar initiatives: “Well, you know you can do it. You know [that] if it generates some revenue, you’re gonna do a great thing for your community. You know what not to do, you know how you wanna set it up, you know all of those things (Participant #4, Participant #5, Participant #6)”. Further, the Village has also learned how to better manage public expectations through negative experiences from the community forest. This quote illustrates how this learning is being operationalized: “We have to [develop a strategy to manage public expectations]. We have no choice but to do that, we have to build that into our plan and, and our public notification document, so, we’re just working on that right now, that’s a must. You have to show the public, currently, now because taxes are rising and inflation rising, you have

to show ‘em that this revenue won’t cost them any more money. It has to help them out in some way, you know […]. In a small community it just takes one anti-person in a community meeting to change the whole outcome, so [you better be prepared] (Participant #4, Participant #5, Participant #6).”

Generally, the benefits from the Burns Lake Community Forest seems to have strengthen the entrepreneurial orientation in the Village. One participant stated that “Each council has gotten more entrepreneurial (Participant #4, Participant #5, Participant #6)”. Indeed, this drive for entrepreneurialism may stem, as suspected and represented in this case, from a necessity to support the resilience of municipal operations amidst waves of restructuring. Quoting a participant: “The residential and commercial taxe bases is paying the load right? […] That just covers operating the municipality. If we wanna do anything else, we need this, for sure (Participant #4, Participant #5, Participant #6).”

Dawson Creek Water Reclamation Project

The Dawson Creek Water Reclamation Project has provided economic resilience to the development of the oil & gas sector around the City. As mentioned above, one of the objectives of the project was to allow industry to be able to have access to the water they needed for fracking, while reducing the demand on City potable water system. In fact, one participant noted that the partnership allowed the City to earn some revenues while Shell got certainty for product (Participant #8). This situation guaranteed the resources Shell Canada required for its operations, even in times of drought, which supports the region’s economic stability. One participant highlights this fact: “I mean, if you look at Dawson over the last 20 years, the hotels that have been developed, the economy has maintained, we’ve never been boom or bust, this has helped offset that as well. We’re pretty fortunate there (Participant #9, Participant #10).” Moreover, the agreement allowed the City to sell small volumes of water to other buyer in times when Shell was not requiring any water. Indeed, the City also generated small amounts of revenue though their truck fill station.

Nevertheless, the project has also been a cost to the City, since, at the time of interview, the City had not yet been able to reap the benefits of large volumes of water sales due to the nature of the partnership (Partnership #8, Partnership #9). Moreover, it was identified that the City lost ‘a few major trucking businesses’ through the

implementation of the facility, especially the pipeline (Participant #9, Participant #10). This suggests that public expectations around reducing potable water use and truck travel from industry, as well as the foreseen economic benefits, surpassed perceived benefits of continuing to support these local trucking companies for local decision-makers.

Indeed, since October 2022, the potential for revenue has increased significantly due to Shell now having to pay for all water drawn from the water reclamation plant. Further, the new pipeline extension to the Ovintiv site now provides a new market to the City (Participant #8, Participant #9, Participant #10). This additional income creates more direct economic benefits for the City and allows the municipality to make strategic decisions with its revenue, although the strategy was only emerging at the time of the interview. On that note, it was also mentioned that the City plans to reinvest the revenues in the water and sewer infrastructure to relieve pressure off of taxpayers (Participant #9, Participant #10). One participant also commented that benefits the City was 'very fortunate' to be in a 'financially reasonable situation' in relation to infrastructure and other expenses, while the water reclamation project contributed to that situation (Participant #9, Participant #10). The City is also able to use the reclaimed water for some of its municipal uses which further reduces the strain on its potable water system.

Regarding social benefits, the water reclamation plant may help prevent the water conservation bylaw from being applied through a reduction of freshwater demand on the City's supply (Participant #8). This suggests that the water reclamation plant can contribute to the well-being of local constituents by potentially reducing the severity of restrictions applied to domestic water usage in periods of water stress or drought.

Relatedly, the initiative has produced significant environmental benefits. In fact, all participants noted the environmental benefits of the initiative which include a reduction in intake of groundwater, in the demand on municipal potable water, as well as in the amounts of trucks on the roads (Participant #8). Shell also won global awards for the environmental benefits (Participant #11). Moreover, it was also mentioned that the initiative has 'great potential' for being part of solutions in relation to climate change and potential future water scarcity and other periods of drought (Participant #9, Participant #10). Indeed, this suggests a potential for the infrastructure to support the City's future climate adaptation measure. Another participant discussed the potential for the initiative

to increase the resilience of the municipality through providing ‘another tool in the toolbox’ and giving the City the ‘ability to just do things differently’ (Participant #8).

Indeed, other opportunities may emerge from the Dawson Creek Water Reclamation Plant which have not been identified yet. This quote from a participant demonstrates this fact in relation to potential climate mitigation measures: “I think that’s part of it right, in terms of, is there other opportunities into the forestry sector or agriculture or, it’s just that, the opportunity of, every day we treat 4000, 5000, 6000 cubes of water that gets redistributed into our City […] but, every cube of that then gets reclaimed which creates this opportunity for us, for other opportunities, right? […] and, the day will come when this industry shifts without question, I mean, you know, natural gas I am a huge supporter of it, I think it’s a great fossil fuel, as far as fossil fuels go, but the world is gonna change, you know, over the next 20, 30, 50, 100. So, is there gonna be a use? We’re still gonna need water, yeah. And [finding new uses], I think it’s part of our future (Participant #9, Participant #10).”

5.3. Conclusion

This section highlighted the results from phase one and two of this research project. Findings from phase one uncovered the pressures from neoliberal reforms faced by rural and small town municipal governments in Northern BC, the new roles and responsibilities attributed to them through restructuring, as well as the entrepreneurial ways in which they are responding. Findings from phase two provided a detailed analysis of the investigation of two of these case studies of municipal enterprise, the Burns Lake Community Forest and the Dawson Creek Water Reclamation Plant. The themes discussed were the use of natural asset, risks related to the initiative, internal and external capacity necessary for their development, the role of local government, as well as community benefits achieved by these municipal enterprises.

The analysis of these major themes demonstrates that pursuing these initiatives requires local governments to engage in a high-level of risk-taking. Particularly, in Burns Lake, there was significant financial, liability, operational, procedural (social cohesion), and environmental risk, while in Dawson Creek, partnership, construction, and technological risks were also incurred.

The results from this study also show that internal capacities have been used to manage risks, develop, and operate the initiatives, but that requesting assistance from external partners and senior governments was nevertheless required in both cases for some aspect of the development. Namely, Burns Lake requires external technical forestry assistance to develop their management plans, while in Dawson Creek, the municipality would not have been able to accomplish anything close to the scale realized without Shell Canada as partner.

Local governments also come out at as key enablers of such projects through their role in managing public expectations and distribution of benefits, facilitating collaboration and leadership. Specifically, the Dawson Creek municipal leaders were instrumental in ensuring the continuity of the partnership through their vision and determination. In Burns Lake, lots of work was done to ensure that community expectations were integrated in the community forest vision and that proceeds from the enterprise are distributed equitably to the community organizations through the local government.

The findings also illustrate that economic benefits are generate directly through the Burns Lake Community Forest, and more indirectly, up until recently, through the support of key regional industry in the case of the Dawson Creek Water Reclamation Plant. Moreover, significant social benefits ensue from the Community Forest donations, while many important environmental benefits have been achieved by the development of the water reclamation plant and its associated pipeline. It was also found that the new FSC certification pursued in Burns Lake and associated investments in the landbase support enhanced ecosystem services and contributed to sustaining a crucial and meaningful relationship with local First Nations.

Finally, the use of natural assets cannot be neglected either as rural communities often have a history of staples' dependence, especially in northern BC. Indeed, findings from this study highlights that opportunity still exists for communities to use their strength to redefine the use and management of their local natural assets to their benefit. These two cases have demonstrated that there is possibility for this type of initiative to strengthen the resiliency of rural and small town communities, particularly their local government operations, in a resource-dependent context.

Chapter 6. Discussion

This research project has demonstrated that rural local governments in northern BC are often facing precarious situations which is creating a need to be innovative. As highlighted previously, these pressures come from neoliberal downloading, as well as economic, political, and social restructuring happening in this region. These waves of neoliberal public policies have resulted in senior government withdrawals from rural areas reducing local government capacities, often simultaneously increasing their load of responsibilities. However, this study has illustrated that opportunity exists for rural local government to develop natural resource, place-based entrepreneurial initiatives that support community economic resiliency, as well as potential climate adaptation co-benefits in the face of mounting pressures.

Indeed, the two case communities of Burns Lake and Dawson Creek rely heavily on natural resources to support their local economy, although the latter as a more diversified economic base. These staples-driven economic dependency has pushed Burns Lake and Dawson Creek to find ways to support or rejuvenate the local natural resource-based economy amidst increasing environmental pressures, exacerbated by a changing climate, fearing the loss of important economic contributions to their communities.

Moreover, results from our case study indicate that some rural municipalities are acting out of necessity when developing municipal enterprises, often pushing these local governments to take a high level of risks to fight for the sustainability of their community. They also often lack many capacities required to effectively develop and implement such projects, but are able to pull themselves by their shoestrings and use their networks, as well as consultants to make them work. Indeed, leaders, staff, and community members from these localities have recognized the necessity of such entrepreneurialism to solve many community issues for which senior governments have not been found to provide any form of significant support.

Indeed, the case of the Burns Lake Community Forest and the Dawson Creek Water Reclamation Project highlights a need for more senior government support in developing and managing these initiatives to support the long-term success of these communities and their resource-based municipal entrepreneurial endeavors. These two

projects have resulted in significant economic benefits for both communities with other important social, environmental, and institutional learning co-benefits. Senior governments should be attentive to such bottom-up initiative and foster their success to allow rural and small town communities in dire need of resources to achieve such benefits and continue to sustain the resiliency of the economy of the Province of British Columbia. Moreover, the development of these projects appears to be increasing adaptive capacity for the concerned communities thereby fostering climate adaptation benefits. The Province of BC should be paying further attention as the effects of climate change are set to accelerate and therefore, supporting increased adaptive capacity throughout all provincial communities should become a priority. The following section will analyze the context that led to these initiatives being developed, the challenges they faced and the factors that lead to their success, the role of senior governments, and the implications of these natural asset, place-based municipal enterprises for community resilience.

6.1. Use of Natural Asset in Place-Based Municipal Enterprise

As discussed above, settler rural places of northern BC developed following expansionist policies from senior levels of government. These policies sought to link rural peripheries to export markets and develop resource extraction industries to create economic growth in the province. They were also implemented in conjunction with social programs which fostered social development and community building across rural regions of the province. Additionally, resource extraction policies and tenure systems allowed for some economic benefits to remain in local resource-based communities, as fostered by the appurtenancy clause of the forestry sector. These integrated development policies resulted in three decades of uninterrupted growth and rural emancipation. Unfortunately, this vision also had a narrow focus on staples economy which entrenched path dependencies for northern BC, which rendered these communities vulnerable to external actors and global networks, leading to the ‘staples trap’.

Subsequent provincial government have not offered significant support for economic diversification and have furthered the same extractive, resource-bank policies, without adequately appreciating the impacts of economic restructuring on rural

economies and communities caused by globalization. Indeed, a series of neoliberal policies instead led the political front, ushering a new era of state withdrawal from economic and community development, as well as in the provision of many important services. The effects of these senior government withdrawals were amplified in rural communities who possess a less diversified and more volatile resource-dominated economy than their metropolitan counterparts, as well as a less potential P3 partners, and limited staff capacity hampering their ability to respond to such austerity measures (Ryser et al., 2023b; Halseth & Ryser, 2018; Propheter, 2019;). These neoliberal policies indeed contributed to further political restructuring, which intensified the social changes, such as out-migration and workforce aging, which had already begun as large industrial resource companies leaned up, specialized, and merged their operations due in part to the forces of globalization. These pressures were further exacerbated by waves of neoliberal downloading often without providing adequate fiscal and jurisdictional authority or resources, a trend which continues to this day. Such changing roles and responsibilities have been investigated as part of this research project and highlighted new roles in the spheres of broadband infrastructure, climate change, community development, economic development, planning, housing, indigenous consultation, infrastructure, public safety, regional governance, and services creating additional stress on already ‘out-of-breathe’ communities. As Markey et al. (2012) has remarked, this situation naturally results in rural and small towns having to bear the responsibility to develop endogenous solutions their community development issues. Indeed, many different types of innovative and entrepreneurial initiatives have been pursued by communities in northern BC and across Canada as witnessed by this research project. However, the projects pursued by the City of Dawson Creek and the Village of Burns Lake share the characteristic of using their local natural assets for the development of place-based municipal enterprises.

Rural communities looking towards their surrounding natural resources for their economic development is not new. In fact, rural communities can often be characterized by a disproportionate reliance on ecosystem-based sectors such as agriculture, forestry, and water-based industries (Birchall & Bonnet, 2019), as well as and their embeddedness in social-ecological systems, now at risk of climate change (Piggott-McKellar et al., 2019). Natural resources and their related economic sectors are very much tied to the foundations of these communities and their identities. Indeed, McIlveen

& Bradshaw (2009) found that the development of the Burns Lake Community Forest was supported by a shared sense of identity around forestry, as well as social cohesion around a need transform the current industrial and senior government determined forestry paradigm and take control of their own resource. This finding was also illustrated through our discussions with participants involved in the initial stages of development of the community forest, while the need to find solutions around the water crisis was also quite strong in the Dawson Creek case. This suggests that rural communities may be well positioned, in regard to local knowledge and social cohesion, to use their historical advantage to their benefit in reimaging new uses for these same assets. Indeed, supporting the renewal or the resilience of the local resource sector may have seen intuitive for these communities and their elected officials considering their experiences and shared sense of identities.

In fact, some of the local leaders interviewed had been employed by these same resource industries. Our findings point to local awareness, in regard to community strengths and needs, as having contributed to the success of these initiatives. These leaders recognized that they had an opportunity to improve their community's resilience through strategic natural resource management (Winther, 2017). The issues faced by each community were very much place-based, and the solutions fostered to support community economic development was also focused on place-specific solutions. In both localities, these leaders or group of leaders became institutional entrepreneurs who were able to identity the right opportunity for the assets and strengths of the community, further demonstrating this ability of local civil society actors (Ryser et al., 2022), and the propensity of municipal leaders to become entrepreneurs in times of change (Ryser et al., 2023b; Teske & Schneider, 1994). The choice of using place-based initiatives, on the other hand, may also be attributed to other factors such as social movements in regard to forest tenure in BC coinciding with the arrival of a new institutional arrangement (CFA) (Ambus & Hoberg, 2011), as well as the apparent absence of senior government involvement in local natural resource management and strong local leadership.

As our results demonstrate, the use of natural assets in place-based enterprises was also influenced by specific contextual conditions, as well as through public expectations for local government to get involved in the management of the resource. The latter corroborates with findings by Thomas (2010) who found that the involvement of local governments in Australia in natural resource management was influenced by an

expectation from local constituents to do so, as well as a need for action within the local institution. Further, Larson (2002) found that commitment to sustainably manage the resource in the long-term was a factor in successful natural resource management by local governments. Both cases exemplify a profound need for action, a desire by the community for the local government to use its capacities to act, as well as a long-term commitment inherent to local leadership. The latter was specifically expressed in Burns Lake after the MPB epidemic forced them to reconsider their vision for the area-based tenure. Indeed, these findings also relate to Birchall & Bonnett (2019) who identified that that “without a major (recent) precipitating event decision-makers often lack the initiative to mobilize adaptation actions”. This was further exemplified by the water crisis in Dawson Creek. Indeed, the ‘desperate’ economic situation faced by the Village of Burns Lake, and the environmental crisis undergone by the City of Dawson Creek led to both local governments to proactively look for solutions, which further led them in the direction of taking advantage of their local natural resources and reimagining their use and management for the benefit of their communities.

6.2. Economic Benefits

Both of our cases highlight that significant economic benefits can be achieved from place-based, natural resource-based entrepreneurial initiatives. As mentioned above, there was some degree of social cohesion around these issues, which has been identified as factors to successful CED initiatives by Mcilveen & Bradshaw (2009). Although the Village of Burns Lake was significantly more in need of financial resources and economic development than the City of Dawson Creek, both cases mentioned a need for economic development and revenues to support municipal operations and a concern regarding senior government downloading. These themes highlight the importance of acquiring economic benefits or new sources of revenues from these entrepreneurial ventures to support the future of both communities. Fortunately, both opportunities support crucial local economic sectors which provide economic benefits far beyond the revenues generated from the initiatives themselves, such as by supporting spending in the local service and retail sectors. Moreover, they appear to be fostering some degree of strategic thinking with the revenues generated through these initiatives and the way they support community economic development. However, these selected

staple-based economic sectors are far from providing a certain economic future for these rural places.

Indeed, although there may still be plenty of gas to be extracted from the Montney gas field, emissions reductions and climate change abatement policies may result in this economic sector to either die-off completely or be significantly limited in the coming decades depending on many political, technological, and climatic factors. On the other hand, the forestry sector in British Columbia, although not so much at risk of facing a lack of demand or production restrictions due to tree growth and lumber's positive carbon sequestration benefits, is still very much at risk of changing weather patterns as exposed in the case context. Interestingly, both of these municipal entrepreneurial initiatives were developed to reduce risks to municipal operations, while they also required both municipalities to take significant amount of risks to achieve these desired results.

6.3. Risk

Our findings show a strong requirement for municipalities to engage in risk-taking behaviour in order to achieve potential benefits associated with entrepreneurial initiatives. Indeed, although it was shown that small municipalities are able to use these types of partnerships to reduce risks to local government (Ryser et al., 2023b; Coiacetto & Baker, 2005), our results indicate that the City of Dawson Creek still had to bear many risks to support the development of the water reclamation plant; none of them insignificant for a small municipality with limited resources. Nevertheless, these risks seemed worth the taking considering the success of both cases. This is not to say that all rural and small municipalities should undertake the same degree of risk-taking to support similar initiative. Rather, I am suggesting that rural and small municipalities should assess risks and attempt to find ways to mitigate and manage them prior to developing these initiatives, ideally with the support of senior governments. Indeed, such partnerships with the private sector are a critical source of innovation for small, rural communities attempting to create new economic development pathways (Markey et al., 2012, p. 66).

However, a key risk identified was risks around the management of those partnerships. Indeed, both initiatives had to deal with significant partnership issues

surrounding ideological difference, different operating philosophies, and difficulty maintaining productive relationships. These partnership risks were substantial as, in both cases, the initiatives could not have happened without all partners working together. This highlights an intricate relationship between local governments and external actors involved in providing important capacities to the development of municipal entrepreneurial initiatives. In fact, this corroborates findings with Fleeger & Becker (2008) which highlighted that trust between partners (or First Nations) was key in supporting successful natural resource governance, while Spires et al. (2014) also indicated that communication and institutional differences between funding agencies (or private partners) and local communities had been identified as barriers to climate adaptation initiatives. Indeed, both risks can be reduced through ongoing collaboration and participation in trust building activities, such as stakeholder engagement and visioning exercises (Fleeger & Becker, 2008; Larson et al., 2017; McNamara & Buggy, 2017), as was witnessed in the case of Dawson Creek. In the case of Burns Lake, this trust with local First Nations was rebuilt through active involvement in early stages of development, as well as Village leaders completely amputating and replacing their conflicting board members.

Environmental risk were also consistently reported as having significantly influenced both projects. Our results also demonstrate that senior governments may also be restricting, to some degree, the ability of local communities to manage those risks adequately. This type of risk will undoubtedly continue to be faced by both municipalities, since, as mentioned above, rural municipalities are embedded in natural systems which are influenced by increasingly unpredictable weather patterns. Moreover, both initiatives are resource-based further impacting their degree of vulnerability. Considering these factors, the resilience of these rural, resource-dependent communities now requires a special attention to how their place-based environmental assets are affected by climate change (Birchall & Bonnet, 2019; Cains & Henshel, 2019). However, there is significant potential for climate adaptation benefits to stem from these placed-based entrepreneurial initiatives.

Finally, financial risks were certainly the most important encountered. These risks suggest that local governments could benefit from some level of senior government support, such as grants, that would allow them to be more comfortable in pursuing such initiatives. As discussed above, grant processes could be more flexible to the needs of

local communities for some guarantee of funding prior to pursuing an initiative, while also allowing for faster response time to match P3 partners deadlines. Moreover, local government could also benefit from increased fiscal flexibility allowing them to take on larger debt capacity, for example, for special projects, such as municipal enterprise. This policy, although not reducing the financial risk to the City, would at least allow municipal more flexibility in case of default of the municipal enterprise to be able to pay off remaining debt, while also allowing the municipality to continue support municipal operations. Further, financial risks were amplified by the novelty of both the CFA and the reclamation plant's technology, which resulted in both local governments having to acquire the necessary expertise to better understand the legal and technological requirements of the projects. Acquiring these capacities was necessary in developing the confidence to pursue the municipal enterprises.

6.4. Capacities

Our study clearly reaffirmed that rural and small town municipal governments lack the necessary capacity to undertake municipal entrepreneurial initiatives on their own (McNamara & Buggy, 2017; Middelbeek et al., 2014; Spires et al., 2014). In fact, multiple external agencies, consultancies, and partners were hired or contacted by the municipal governments to obtain the capacities they needed to successfully develop their respective projects. Unequivocally the most important of those partners was Shell Canada, allowing the City of Dawson Creek to leverage about a tenth of the water reclamation facility's costs and to provide water for a predetermined period to sustain their operations in exchange of the acquisition of a the multi-million-dollar piece of infrastructure. Moreover, Shell provided technical capabilities which the City did not possess. Indeed, the scale of this partnership highlights the potential for cross-sectoral collaboration when objectives are aligned between organizations. Our findings match those of Jaja et al. (2016) and Young (2002) which defined that horizontal integration (or cross-sectoral collaboration) is often the result of intentional strategies that aim to resolve precise issues that increase community well-being. The case is also a perfect textbook example of how P3 partnerships have been conceptualized by Kuratko et al. (2015). However, what is especially noteworthy is also the extraordinary accomplishments by both municipalities in using their limited staff and financial resources to pull together their projects.

In fact, internal human resources capacities were used extensively for the benefit of these initiatives. Some staff had to work additional hours, while other had to go out of their comfort zones and perform tasks which they had not been trained to do. On the other hand, there were also some key staff members, leaders, and senior government affiliates which provided disproportionate support to the development of the municipal enterprises. Indeed, it is important to mention the importance of these 'champions' for the success of the initiatives due to the limited capacities surrounding them. These results echo those of Wild River (2006) who found that the dedication of key environmental advocates was crucial to the success of environmental policy initiatives in Australia (Thomas, 2010).

Also, the use of internal financial capacity was critical to support start-up capital requirements. As discussed above, these rural municipalities took an incredible amount of financial risk considering the extremely limited financial resources they possessed compared to the immense burden of costs they must bear in the context of neoliberal restructuring. The use of these funds demonstrated the level of necessity of these initiatives felt in both communities while it impacted their ability to borrow additional capital for other projects in the municipality, at least temporarily. Indeed, local leaders took the risk of reducing the adaptive capacity of their community momentarily in an attempt to increase the future resilience of the community. This situation further emphasizes the need for senior government support for this type of 'community-saving' projects.

Moreover, legal and technical capacities were also identified as being fundamental to the development of these initiatives. However, while a large municipality like Dawson Creek, may possess some of those capacities, smaller rural towns like Burns Lake do not. Hence, if equal opportunities are to exist for local government to be able to implement these initiatives and succeed in becoming more entrepreneurial, senior governments must equally develop infrastructure and services for municipal entrepreneurship as they do for individuals. In fact, it was specifically identified by a Burns Lake participant that having access to a corporate lawyer 'through the Province' would have been beneficial (Participant #7).

Additionally, managing natural resources, such as an area-based forest tenure, is also not on the typical list of responsibilities of a rural municipality, although there has

been a trend towards senior government downloading in this sector in the global south (Thomas, 2010; Larson, 2002). Our results demonstrate that the Burns Lake Community Forest had to acquire much needed technical expertise from multiple actors. Fortunately, the local knowledge held in the community was considerable and allowed the initiative to be successful amidst challenges. Nevertheless, it was also noted that the most technical aspects of natural resource management, such as producing a timber supply analysis, requires external capacities as this level of forestry expertise does not exist locally. These findings corroborate with Larson (2002) who found that rural local governments often lack the appropriate resources to undertake such tasks which may result in negative outcomes. However, the use of participatory methods has been demonstrated to increase success of CBNRM (Milupi et al., 2017) and CBA initiatives (McNamara & Buggy, 2017) and has been used to some extent by the Burns Lake Community Forest thereby mitigating some of the risks related to this lack of technical capacity through enhanced social networks capacities.

Finally, social capital and networks within communities also contributed to the development of the projects. Local leaders exchanged with industry leaders to develop the most effective municipal enterprise foundation. This characteristic was reflected in Burns Lake through informal interactions with two resourceful Ministry of Forest District Managers, while Dawson Creek elected officials reached out directly to industry in an attempt to develop the partnership and acquire information. The proximity of local institutions with local natural resource sector certainly facilitated these relationships and the following acquisition of needed expertise, as suggested by Jaja et al. (2016). Moreover, the extensive public engagement process surrounding the Burns Lake Community Forest, as well as the series of public discussions surrounding water scarcity in Dawson Creek may have also enhanced social capital and social cohesion in these communities around these specific issues (McNamara & Buggy, 2017). The role of social capital and networks has been praised by scholars as important in the development of successful municipal entrepreneurial initiatives (Shearmur & Poirier 2015, 2017; Malecki, 1994), climate adaptation projects (Jaja et al., 2016), as well as in building local adaptive capacity (Larson et al., 2017; McNamara & Buggy, 2017). Indeed, increasing collaboration between stakeholders at multiple scales has also been determined to increase the effectiveness of natural resource management and

environmental issues (Bixler, 2014), while having been recognized as beneficial to CBA initiatives (McNamara & Buggy, 2017).

6.5. Role of Senior Governments

Senior governments have consistently withdrawn from rural and small town places, cutting back services and transfers, while increasing grant requirements. Moreover, senior governments have withdrawn from providing economic development services which had historically created and sustained the growth of northern BC. This situation, as well as the challenges faced by peripheral communities, require some type of tangible solutions as the abandonment of rural places should not be considered an option. Rural places need adequate services to be able to sustain their local economy in a highly competitive global environment (Markey et al., 2012, p.179; North & Smallbone, 2000) and senior governments have the responsibility to nurture this supportive community and economic infrastructure (Markey et al., 2012, p. 121, 181). Indeed, senior governments should create more mechanisms and services to support local governments in the development of municipal enterprises, as well as other risk-taking initiatives such as engaging in partnership. As highlighted above, rural and small town local governments also need resources; they cannot accomplish these things on their own. Our results indicate that they would benefit from, for example, having access to legal and business guidance, having more financial flexibility in regard to debt, as well as more grant opportunities that match local government timelines and resources to reduce the level of risk and uncertainty in undertaking these ventures. Such supports may allow for more local government to feel comfortable in undertaking the initial development stages of such projects which have the potential to create multiple economic and other co-benefits for rural and provincial economies. Indeed, senior governments have a role to play in ensuring rural resiliency. As mentioned above, viewing these supports as ‘expenses’ is not productive and stems from short-sightedness. Supporting the resilience of rural communities, in this way, should be seen as investments which will pay off as local governments build their capacities to support place-based economic development.

Moreover, senior government have a role to play in natural resource management and climate change adaptation. The management of environmental issues such as the mountain pine beetle (MPB) epidemic, wildfire mitigation and water conservation (Bixler, 2014) and climate change (Jaja et al., 2016), as well as issues at

ecosystems and watershed level (Larson, 2002) are multi-jurisdictional and multi-sectoral in nature and require multilevel governance approaches to achieve more effective management outcomes. Indeed, multiple authors have identified a multi-scalar approach to natural resource management and climate adaptation as the most effective governance system as actors from different scales can each benefit from their unique set of capabilities and resources (McNamara & Buggy, 2017; Bixler, 2014; Larson, 2002; Larson, 2017). In fact, Larson (2017) has highlighted that “policy response capacity is greatest when multiple levels of government engage in vertical and horizontal integration and collaboratively to accomplish these goals, acknowledging that effective environmental governance should not be confined to any single scale”. This suggests that cross-scale collaboration enhances the resiliency of local communities regarding environmental risks.

On the other hand, we found that senior government institutions acted in a more restrictive rather than collaborative way regarding forest management objectives and refused to acknowledge and respect the local knowledge held by the Burns Lake Community Forest, while they seemed rather uninterest in understanding the intricacies of most aspects of municipal entrepreneurial development and the associated community resource management benefits. This situation was well documented in the case of Burns Lake and resulted in challenges in defining multiple management objectives and increased wildfire risks to the community. In Dawson Creek, the Province was quite cautious of the innovative nature of the project and increased reporting and testing requirements in the first few years related to the discharge permit due to an apparent lack of understanding of treatment processes (Participant #11). Indeed, this situation demonstrate the lack of sincere support from senior government in the innovation itself. Surprisingly, the Province did not seem very enthusiastic or interested about the project, although it was set to bring many benefits to the community and the expanding local oil & gas industry, as well as being a first globally…From these cases, we can deduce that rural local governments involved in placed-based initiatives that require some consideration for local natural resource management would appreciate having a senior government partner that provides support and guidance in decision-making rather than restricts local autonomy or requires unreasonable reporting.

Moreover, senior governments also have benefits to gain from such collaboration. In fact, as environmental governance and management becomes more

effective through enhanced collaboration (Bixler, 2014), ecosystem health may increase, leading to an increase in benefits from derived from ecosystem services and related climate adaptation advantages (Reid et al., 2009); these same ecosystem services also support the Province's coveted natural resource sectors. Further, this multi-level governance process supports resource-based communities in increasing their adaptive capacity by increasing their access to greatly needed resources to support the success of local management and adaptation initiatives (McNamara & Buggy, 2017). Moreover, as the level of adaptive capacity of local communities is dependent upon their level of integration in multi-scalar and cross-sectoral governance systems (Jaja et al., 2016; Ingold et al., 2010), senior government should be interested in establishing and facilitating the involvement of local actors in such structures. Indeed, these processes increase the resiliency of communities to the effects of climate change which has the potential to reduce senior government's need for top-down support as communities develop place-based, community-led adaptation strategies.

6.6. Implications for Community Resilience

The Burns Lake Community Forest and the Dawson Creek Water Reclamation Plant have shown that they can support community resilience to some extent. Indeed, both initiatives have fostered economic stability in their communities by supporting key local resource sectors, amidst rural restructuring pressures and decline. Moreover, they have brought a new source of revenues to support municipal operations. In both cases, these new revenues have and are planning to be used for community infrastructure upgrades supporting future developments, the health of municipal operations and the continuity of local service provisions. These initiatives have certainly supported community resiliency in such ways. On the other hand, they have not radically changed the economic dependency on staples production. In fact, Burns Lake is still reliant on forestry, and Dawson Creek is continuing to foster its growth on the oil & gas sector. This situation produces questions as to the degree of resilience achieved through these projects (Dannestam, 2008; Skelcher, 2017).

The research does clearly show broader benefits associated with community resilience. The Burns Lake Community Forest initiative combines development with climate adaptation through development-based strategies (forestry) with adaptation co-benefits (Medina Hidalgo et al., 2021). Moreover, the review by Piggott-McKellar et al.

(2019) would categorize the type of climate adaption activities resulting from the Burns Lake Community Forest as natural resource management practices through the integration of ecological values and traditional knowledge in management plans, as well as through the establishment of a management group (the Burns Lake Community Forest). Indeed, this new management paradigm for the forest resource around the community of Burns Lake can also be a source of ecosystem-based climate adaptation by supporting increased ecosystem services (Reid, 2016). Through the use of a participatory approach, although limited, the initiative also strengthens the resiliency of the community by developing collective choice mechanisms and increasing social capital, which further fosters adaptive capacity.

Indeed, initial public consultations were instrumental in defining community objectives for the community forest and represent the crux of the participatory approach used in its development. As noted above, the use of a participatory approach is important as it allows for the place-specific context, as well as the aspirations of the local community to be accounted in CBNRM and CBA initiatives and has been linked to increased effectiveness of these programs (Edwards et al., 2019; McNamara & Buggy, 2017). Therefore, the involvement of the local government institution in enabling the process that led to these rounds to public engagement, as well as its accountability to the local population as owner of the community forest, is essential to highlight as it reaffirms the fundamental role of local governments in representing local concerns and aspirations of residents (Douglas, 2005).

Moreover, the community-driven approach to natural resource management produced environmental benefits through a long-term approach to forest management after the MPB epidemic forced community members and decisions-makers to reimagine the desired benefits coming from the municipal enterprise, as well as the framework to achieve it. The FSC certification, as well as investments in the land base, are now fostering a climate of increased stewardship of the relationships between partners and the ecosystem. Moreover, the increased control over local wildfire abatement and the significant commitment to manage such risks by the community forest increases the resilience of the community in the face of increasing impacts of climate change. Our study suggests that the aforementioned benefits stem from the participatory approach used in the establishment of the community forest and the role of local government as

steward of those benefits for the community which increases its adaptive capacity and consequently its resilience.

Through the Dawson Creek Water Reclamation Project, the City of Dawson Creek retains the oil & gas sector as its main contributor or 'customer' although the City may have the opportunity to sell the reclaimed water to another industry if it is able to renegotiate its contract adequately to seize such diversification opportunities. From a broader community resilience perspective, however, this initiative combines development with climate adaptation in that it works to 'climate proof' development. Indeed, the water reclamation plant allows the City and industry to continue to use water for their development needs amidst climatic pressures, in this case, a reduction in the availability of fresh water. Moreover, this new source of water for the community can be associated to the infrastructure technology category of climate adaptation measures described above by Piggott-McKellar et al. (2019) and allows the municipality to be substantially more resilient in the face of climate change. These climate adaptation co-benefits stemming from the partnership are significant as they provide the City the opportunity to increase the efficiency of its water supply by 100% if it is able to use or sell all of the water produced through its sewer system, omitting system losses. As mentioned above, this project allows the City to benefit from an increased stability from the oil & gas industry, as well as revenues, due to increased stability of water supply and water sales, but also benefits simply from having this infrastructure to serve the population in case of a water emergency. These benefits contribute to increasing the adaptive capacity of the community to drought, and related water scarcity.

6.7. Climate-Economic Resilience

Finally, the result of this study highlighted the potential for place-based municipal entrepreneurial initiatives using local natural asset to strengthen the climate-economic resiliency of these resource-dependent towns. Indeed, we show that such bottom-up initiatives foster local economic benefits at the scale of the local natural resource sector, which can represent a significant economic force in a rich endowed territory such as British Columbia and Canada. However, these economic benefits, and their related ecologically-based sectors, are increasingly at risk from climate stressors which communities have to be strategic about managing to ensure the sustainability of their endeavors.

In fact, BC is set to see greater precipitation and warming changes than the rest of world causing massive adaptive pressures on natural systems and communities (Devisscher et al., 2021). As such, senior governments, local communities and involved economic sectors must work collaboratively to increase the effectiveness of environmental and natural resource management policies and develop adequate and timely responses to avoid the worst consequences of not being prepared for such expected, damaging events. Nevertheless, proactive risk management by the Burns Lake Community Forest and others in the province (Devisscher et al., 2021; Abbott and Chapman 2018) support the sustainability and resilience of these municipal enterprises and the surrounding communities. Moreover, the use of 'climate proofing' development strategies, such as that employed by the City of Dawson Creek, provides yet another example of how economic and community development can be planned in climate resilient ways (Medina Hidalgo et al., 2021). The role of local and senior governments in proactively identifying and planning for this type of strategies should be reinforced. Senior governments should also be enhancing multi-scalar and multi-sectoral approach to regional natural resource management to ensure the ongoing resiliency of these communities. Further, providing opportunities for public debate, education, engagement, and involvement in decision-making has been repetitively shown to support increases in adaptive capacity, which, as becoming entrepreneurial may have been for local governments at the emergence of neoliberal policy changes, is going to be fundamental for the survival of rural and small town communities facing increasing threat from climate change.

Chapter 7. Conclusions

This research project has highlighted the pressures faced by rural and small town local governments in northern British Columbia. As explained, these pressures are mostly the result of rural economy restructuring, senior government withdrawals and downloading, as well as increased responsibilities of municipalities often without commensurate fiscal and jurisdictional authority and resources.

Phase one of the project identified specific pressures currently faced by these local governments related to aging infrastructure, broadband infrastructure, housing, human resource pressures, the management of service expectations and costs, climate change, and air quality. Moreover, we found that local governments also faced additional responsibilities related broadband infrastructure, climate change, community development, economic development, planning, housing, indigenous consultation, infrastructure, public safety, regional governance, and services creating additional stress on already 'out-of-breathe' communities. Without any surprises, our result also established that local governments used a combination of internal staff, consultants, and contractors to address municipal responsibilities, although municipal staff was increasingly challenged by increased workloads due to bylaws, freedom of information requests, and changes to policies and procedures suggesting a flagrant lack of capacity and resources to address these pressures.

Indeed, as rural municipalities attempt to fill these new roles and find ways to pay for downloaded services, they are forced to be entrepreneurial and innovative. In fact, Phase two of this research project identified different types of innovative strategies including municipal enterprises, community foundations or legacy trusts, negotiating agreements, leveraging municipal government policies and programs, leveraging investments in human resources, leveraging investments in research and infrastructure, shared services, and regional governance. In Phase two, some of those specific initiatives were analyzed in detail. Indeed, the two cases analyzed in this research paper represent attempts by local government to support the resiliency of municipal operations through the use of their local natural assets to develop place-based municipal enterprises.

Post-colonial development in Northern BC has been carved out of the wilderness through a series of economic and community development policies focused on ‘staples’ production, resulting in path dependent institutions and rural economies, which has created significant challenges for these communities due to restructuring of these resource-based industries. The two cases provided in this paper are particularly interesting since they provide a window into renewal attempts by these communities as they leverage their experience and identity around natural resource sectors to support alternative futures. The development of the Burns Lake Community Forest and the Dawson Creek Water Reclamation Project was influenced by pressures surrounding municipal operations where leaders were expected to develop solution and take action on nascent opportunities; opportunities which, in this case, led these municipalities to pursue initiatives related to the management of their local natural resources.

Our study investigated first, how these initiatives came to fruition and the challenges they faced in their development to inform policies to better support such developments in the future. Next, this research project aimed to understand if, and how these initiatives have been able to strengthen the resiliency of these rural and small town municipal operations and their communities, more generally. The main themes that emerged from our case study analysis were the use of natural asset, risks related to the initiative and their associated risk management strategies, internal and external capacity necessary for their development, the role of local government, as well as community benefits achieved by these municipal enterprises.

This study highlighted that rural and small town local governments possess strong staff members, leaders and partners that work tirelessly to acquire benefits to their community amidst a clear lack of capacity and resources. It was illustrated that internal human resource and financial capacity were necessary, while additional external financial, technical, legal capacities, as well as First Nations involvement, was also required. In fact, a combination of internal and external resources contributed to the success of these initiatives. Our research clearly reaffirms that small communities cannot accomplish everything on their own. Moreover, our findings identified that these efforts force municipalities to deal with a significant amount of financial, liability, operational, procedural, construction, partnership, technological, and environmental risks in an attempt to ‘save’ their municipality. Supporting local governments with risk management capacities is an important consideration that senior governments pursuing

‘enabling’ policies should be warry of if more small municipalities are to be able to pursue such entrepreneurial initiatives. The role of local government institutions in the development of these initiatives was mainly attributed to this general provision of capacity, as well as the management of public expectations and the distribution of benefits, leadership, and facilitating collaboration between actors involved; all functions which were determined to be vital to the successful roll-out of these projects. Finally, our results indicated that opportunities exist for rural and small town to use their local natural resources to develop municipal enterprises which provide many community benefits. Indeed, the economic benefits have been significant in both cases as the initiatives provide increased municipal revenues and support the resiliency of important local natural resource sectors. Additionally, the development process of these initiatives and the municipal enterprises themselves provide institutional learning, as well as social and environmental co-benefits. Moreover, the investigation of these projects has demonstrated that climate adaptation benefits emerged from their development. Through the increased involvement by the community in the management of their local natural resources, these initiatives also have the potential to increase the resiliency of adaptive capacity. Nevertheless, senior government support and multi-stakeholder governance is warranted to increase the effectiveness of local natural resource management, climate adaptation measures and the development of these municipal entrepreneurial initiatives.

Finally, this research has demonstrated the need for external actors to support such development and new studies could focus on identifying cases of effective support structures, as well as multi-stakeholder governance mechanisms leading to successful rural and small town place-based developments and adaptive capacity building. Moreover, although both initiatives have been successful in creating significant economic benefits, climate adaptation benefits were fostered on a secondary level. The potential barriers either hindering the development or the effectiveness of this type of initiative to create more strategic climate adaptation benefits could also be the subject of future study to inform policies that could increase their potential to support local adaptive capacity. Further research may also be warranted specifically investigating the potential ways for such place-based initiatives using local natural assets to be scaled-up to support enhanced local and regional climate adaptation and economic renewal of rural and small town places in the face in exacerbating climate and geo-political risks, potentially leading to increased rural resiliency.

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Appendix A.

Phase 2 – Interview Guide - BC

Municipal Entrepreneurialism: Phase II

Interview Guide: Municipal Leaders and Staff

Participant Name:

Contact Information:

Interviewer:

Date:

Interview Time: Start: _____ Finish: _____

Notes:

Background

In this research, we wanted to explore some issues that shaped the development and operations of municipal initiatives to generate revenue, or to leverage research, infrastructure, P3 partnerships, or policies in order to attract investment that would address community priorities.

Section A: Early Development Stages

The part of our discussion will explore the background and early development stages of municipal entrepreneurial initiatives

In [Community XXX], what pressures prompted the municipality to pursue new initiatives?

What problems did the municipality hope the [municipal entrepreneurial initiative ZZZ] would solve?

How did you find out about this pathway as an option?

What factors were considered to develop these [initiatives ZZZ]?

> *Prompt: in-house vs. arm's length enterprise, community representation, access to capital, access to natural resources, appropriate expertise / personnel, negotiated contributions, capacity of partners, built assets, etc.*

What types of commitments did the municipality have to have in place to support these [municipal entrepreneurial initiatives ZZZ]?

Prompt: capital, budget resources to cover changes in tax revenue, staff time, land / space, etc.

Did the municipality develop any agreements to guide the roles and contributions of stakeholders associated with these [initiatives ZZZ]?

Prompt: Memorandum of Understanding, contracts, purchase / lease / tenure agreements.

How are these [initiatives ZZZ] managed by the municipality?

Prompt: CAO / staff, board of directors, separate corporate structure, etc.

Were there any changes to the operations / structures of the municipality to support the development and operations of these [initiatives ZZZ]?

Prompt: risk management, new department, new staff, governance arrangements (i.e. advisory board), etc.

What risk factors were considered to develop these [initiatives ZZZ]?

Prompt: legal risks, operational risks, financial risks, risk aversion / entrepreneurial culture, environmental risks (i.e. droughts, fires, climate change), etc.

Who did you turn to review your risk assessment [initiatives ZZZ]?

> *Prompt: internal risk management department, legal team, provincial government agency, FCM, municipal association, professional association, consultant, etc.*

How did the municipal legislation and other related policies impact your ability to pursue these [initiatives ZZZ]?

What other issues did the municipality encounter as you were developing these [initiatives ZZZ]?

> *Prompt: public debates, access to research / information, capital, expertise, land / operational space, etc.*

Section B: Operational or Implementation Phase

In this section, we would like to talk about issues that emerged once these municipal entrepreneurial initiatives were up and running.

What is the structure of the operations of this / these [initiative(s) ZZZ)?

Prompt: use of contractors, consultants, staff; management approach to natural resources / infrastructure assets, etc.

What issues emerged as you first started this / these [initiative(s) ZZZ]?

Prompt: small municipal capacity, changes in access to resources, environmental pressures, human resource pressures, fiscal pressures, infrastructure pressures, partner capacity, political influence, etc.

What adjustments did the municipality need to make to support the operations of these [initiatives ZZZ]?

Prompt: staff, policies, relationships / partnerships, expertise, governance, etc.

How did any statutory regulations or provincial policies impact the operations of these [initiatives ZZZ]?

Prompt: reporting requirements, impacts on borrowing limits, conflict of interest, how revenues could be spent / allocated, etc.

How did local government policies and related capacities impact the operations of these [initiatives ZZZ]?

Did you have any third party organization that you could turn to for advice as you implemented these [initiatives ZZZ]?

Prompt: other municipalities, municipal association, provincial government agency, provincial guides (i.e. for municipal enterprises / P3 partnerships), federal government agency, FCM, etc.

How is the municipality using the revenues / fiscal resources generated from these [initiatives ZZZ]? Was this strategy adjusted over time?

Have additional revenues generated from these [initiatives ZZZ] changed the dialogue about property taxes and local government spending?

Prompt: by council, by staff, by community

Section C: Reflection

In this section, we would like you to reflect on the success or effectiveness of these municipal entrepreneurial initiatives to better position small local governments to address their key priorities and needs.

Do you feel these [initiatives ZZZ] have helped to strengthen the resiliency of local government operations from external pressures?

> *Prompt: to fill resource gaps left by changes in tax base, fluctuations with provincial / federal transfers, etc.*

What have been the impacts of these [initiatives ZZZ] on your local government internally?

Prompt: resiliency of fiscal, operational conditions; meeting community / economic development goals; supporting community groups; managing infrastructure / natural assets; investments in new sectors; transformative change.

Section: D: Looking Ahead

Thinking about possible changes needed to better position small municipalities to leverage [municipal entrepreneurial initiatives ZZZ] in order to generate or attract investment, what suggestions or advice would you have about helping municipalities **develop** [municipal entrepreneurial initiatives ZZZ]?

Prompt: to learn about initiatives; to plan and develop initiatives; and to get advice.

Thinking about possible changes needed to better position small municipalities to leverage [municipal entrepreneurial initiatives ZZZ] in order to generate or attract investment, what suggestions or advice would you have about **strengthening the senior government policies and statutory regulations** that support [municipal entrepreneurial initiatives ZZZ]?

Prompt: policies, regulatory restrictions, and provincial operational structures to support policies / regulations.

Thinking about possible changes needed to better position small municipalities to leverage [municipal entrepreneurial initiatives ZZZ] in order to generate or attract investment, what suggestions or advice would you have about **helping municipalities gain access to the capital needed** to engage [municipal entrepreneurial initiatives ZZZ]?

Is there anything else that you would like to say about local government issues that we may have missed?