Canadian Regional Development
A Critical Review of Theory, Practice, and Potentials

Développement régional canadien
Un examen critique des théories, des pratiques et des potentiels

Innovation Report: Kittiwake Region

January 2014
CRD Report 22

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Acknowledgements

We would like to thank everyone who made the production of this report possible. The Social Sciences and Humanities Research Council for funding the project, without their assistance the project would not have been carried out. The interview participants for sharing their thoughts and experiences, without their help this report would be lacking practical insight. The Advancing Innovation in Newfoundland and Labrador project team and funding agencies whose work provided greater insight into the formulation of this report. Lastly we would like to thank the research team (Heather Hall, Ryan Gibson, Ken Carter, Jen Daniels, and Janelle Skeard) for their support and motivation.

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Introduction

"Canadian Regional Development: A Critical Review of Theory, Practice, and Potentials" involves researchers from four academic institutions: Memorial University, Simon Fraser University, University of Guelph, and Concordia University. The goal of this project is to examine an emerging theme in regional develop: new regionalism. To fully comprehend this overarching concept, new regionalism was divided into five subthemes including integrated development, place-based development, governance, rural-urban interactions, and, the theme for this report, innovation and learning.

Innovation is a dynamic concept in regional development due to the different perceptions and applications it endures. Peter Dicken (2007) states that *"Innovation, put simply, is the creation or diffusion of new ways of doing things."* Similarly the Organization for Economic Co-operation and Development (OECD) (2005) state that innovation is:

> *"The implementation of new or significantly improved product, process, marketing or organizational method. Innovation in regional development, for example, may include new ways of organizing and/or sharing information within or across organizations, new strategies for addressing local challenges and opportunities, or new forms of investment. We are considering an innovation as something that is new to the region, rather than new to the world for example"* (p.46).

There is, however, no single agreed upon definition of innovation and therefore policy implementation and practice of the concept is not static spatially or temporally. This not only makes the study of innovation richer but also allows local and regional innovation to maintain unique elements and diversity.

Study Region

The project is based in select study regions throughout Canada including the Northern Peninsula of Newfoundland, Rimouski-Neigette, Quebec, Kootenays, British Columbia, Eastern Ontario, and the region for this report, Kittiwake/Gander-New-Wes-Valley Region[1], Newfoundland (hereafter referred to only as Kittiwake). These regions were selected by project investigators due to initial evidence of their efforts to foster tenets of new regionalism. Further, each region provides unique contextual characteristics that shape their approaches to regional development and innovation.

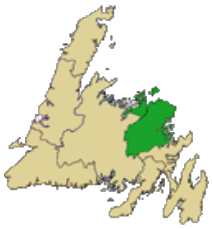

Figure 1. Location of region

[1] In the case of this region the economic development zone and Rural Secretariat region are aligned.

Image Source: http://nl.communityaccounts.ca/profiles.asp?_=vb7En4WVgbWy0nY_

The Kittiwake region is located in the North-Eastern portion of the central part of the Province of Newfoundland and Labrador surrounded by the Bonavista-Clarenville and Grand Falls-Windsor-Baie Verte-Harbour Breton regions (see Figure 1). The region includes both coastal and inland environments. Its borders extends from Notre Dame Bay in the northwest to the southern portion of Terra Nova National Park in the southeast and it contains several still occupied islands accessible only by ferry, including Change Islands, Fogo Island and St. Brendan's.

In 2006, the regional population was 46,850, constituting 9.3% of the provincial population of 505, 470[2]. These figures represent a persistent decline since 1986 when the region's population was 58,580. This is also an aging population as the largest demographic is between 40 and 60 years of age and the number of deaths (510 in 2011) exceeds the number of births (355 in 2011). The population is only marginally affected by migration as the residual net migration for the region in 2011 was only 210 individuals (Community Accounts, 2012a).

The personal income per capita in the region in 2009 was $24,100, slightly lower than the provincial average of $27,700. In the same year this figure reached its peak since 1993 due to increased economic performance. The economic self-reliance ratio for the region is 72% indicating that the majority of regional income is generated from market sources. 28% of income is derived from government sources such as pensions, income assistance, employment insurance, etc. (Community Accounts, 2012a). This is slightly lower than the provincial statistic of 80% indicating only 20% of income is derived from government transfers (Community Accounts, 2012c).

In 2009, 25,160 people constituted the regional workforce. This represents an increase over the last decade when the workforce was 24,550 in 1999. Many of these people (6155) are employed by the service and sales sector while the construction (4370 people), primary industries (2705 people), and office related (2240 people) are major employers as well. In terms of weeks worked health (45.2), education (43.6), and management (45.5) are leaders. Due to the seasonality of some occupations, people collect employment insurance benefits; the quantity of people doing so has decreased from 17,335 in 1992 to 11,600 in 2011. The number of people relying on income assistance benefits has also decreased substantially from 11,915 in 1992 to 4215 in 2011 (Community Accounts, 2012a).

Innovation Policy Context

Innovation is a concept that is highly promoted by government and non-government support agencies alike. This is due to its contribution to efficiency, novelty, and profit maximization (Pike et al, 2008). As such, support organizations often provide programs that foster endeavors that contribute to a region's innovative capacity or the individual firm's ability to be innovative. The innovation literature emphasizes partnerships formed between government, post-secondary institutions, and the private sector. This Triple Helix is considered instrumental in fostering innovation and regional development (Etzkowitz, 2008). In Newfoundland and Labrador, and

[2] 2011 population figures are available for the province but have not yet been released for the region by Community Accounts.

therefore Kittiwake, there are two primary avenues for acquiring support for innovation activity. On the provincial scale there is the department of Innovation, Business, and Rural Development and at the federal level there is the Atlantic Canada Opportunities Agency. This section will provide an overview of the programs offered to firms and organizations by these two government departments.

Innovation, Business, Rural Development

The provincial government of Newfoundland and Labrador seeks to foster innovation in the province by providing programs, funding, and advice via the department of Innovation, Business, and Rural Development (IBRD; formerly known and frequently referred to as Innovation, Trade, and Rural Development or INTRD). This is part of the provincial innovation strategy that commenced March 2006 with $20 million in funding. The goals of this strategy are to increase collaboration, create an innovative culture, foster research and development, enhance education and skills in the province and increase the competitive economy of Newfoundland and Labrador. The following table provides a description and amount of funding associated with each program (INTRD, 2006).

Table 1: Innovation programs available in Newfoundland and Labrador

Program	Funding	Description
Commercialization program	Up to $500,000	This fund is intended to assist in the bringing to market of new products or services. Funding ought to cover costs of labor, capital, developments, and testing. This fund allows innovative ideas to become commercialized and available to the public.
Technology utilization program	Up to $100,000	This fund is intended to provide organizations the means to introduce new types of technology into their ordinary operations. This is intended to make organizations more environmentally friendly and efficient. Only Newfoundland and Labrador-based co-ops or business networks are eligible for this funding.
Innovate and demonstrate program	Up to $50,000	This fund is intended to help reduce any costs associated with sharing innovative ideas with a public sector audience. This fosters the sharing of ideas on marketing, development, commercialization, and strategic planning.
Innovation enhancement program	Up to $250,000	This fund is intended to assist organizations increase their innovative capacity by way of training, collaboration, introducing new items, improving strategies, and participating in skill enhancing activities.
The strategic partnership	Not funding based	This program is not funding based as it relies on collaboration between three critical actors in innovation: government, labor, and private

		business. These bodies are intended to work together in order to improve overall social and economic well-being in the province.
Young entrepreneurs and innovators program	Various funds depending on quantity and quality of project as well as the endeavor	This program offers funding to provincial youth to cover the costs of marketing, development, start-up costs, training, mentoring, and research. The program is intended to encourage youth led business and subsequently retain more young people in the province.

Source: Department of INTRD, 2012; 2012a; 2012b; 2012c; 2012d; 2012e; 2012f

Since this initial research IBRD consolidated their program offerings into two categories in March 2013: Business Development Programs and Non-Commercial Programs. Within these categories are several new programs available to firms and other organization seeking to enhance innovation and regional development in the province. The Department still upholds the goals from the 2006 strategic plan but have modified their methods of achieving this goal. The following table outlines these programs:

Table 2: New IBRD programs

Program	Description
Business Investment	Three sub-programs
Business Investment	Term Loans and/or equity investments are available to small and medium sized firms hoping to expand/grow and build on region strengths.
Business Development	Grants are available to firms that wish to enhance aspects of their business. This includes new technologies, green technologies, market development/expansion, training, and technical assistance.
Investment Attraction	Loans or equity investment is available to firms that are intending to expand or invest in the province particular emphasis is placed on new sector developments.
Regional Development	Two sub-programs
Regional Development	Grants are available to projects that link non-commercial activities to business support or economic improvement. Focus must pertain to infrastructure, marketing, research, and Capacity enhancement.
Partnership and Capacity Building	Grants are available to projects that facilitate community development by uniting multi-level insight, planning, and the private sector.

Sources: IBRD, 2013a; 2013b

Atlantic Canada Opportunities Agency

The Atlantic Canada Opportunities Agency oversees the provision of funding and knowledge partnerships in Atlantic Canada from the federal government level. The department has field offices throughout the Atlantic Provinces that work with local firms, post-secondary institutions, and not for profit organizations in an attempt to increase the region's positioning in the dynamic

and competitive global economy. The department has several overarching programs (*Atlantic Innovation Fund, Business Development Program, Young Entrepreneur Development Initiative,* and *Innovative Communities Fund)* that encompass multiple sub-programs that are available to the public for application and utilization. The following programs are directed towards fostering innovation in Newfoundland and Labrador.

The *Atlantic Innovation Fund (AIF)* is intended to provide organizations with assistance in conducting research and development so that new knowledge, jobs, and opportunities can be introduced to the region. The program was initiated in 2001 and has maintained a central role in increasing a competitive role for Atlantic Canadians in the global economy. Since 2001 $196 million have been invested in Newfoundland and Labrador from this program and this has resulted in 240 new partnerships, more than 300 new workers, and more than 120 new products reaching commercialization. There have been four leading sectors that have benefited from this fund: Information and communications technology (20.2%), manufacturing and processing (19.8%), energy (19.8%), and oceans technology (19.2%) (Atlantic Canada Opportunities Agency, 2013e).

The *Business Development Program* is intended to aid business owners to establish, improve, and increase the capacity of their firms. To be eligible for this program firms must be: economically viable, provide evidence of their need for financial assistance, and ensure economic benefits to the community or region. ACOA will provide 50% assistance on constructing or purchasing a building, purchasing necessary equipment, investing in expansionary capital, improving existing facilities, leasing equipment, constructing necessary infrastructure, acquiring intangible assets (patents, licenses etc.), and start-up costs. ACOA will also provide 75% assistance on marketing, training, productivity/quality improvement, innovation, consultant advice, contract bidding, business proposal development and business support. Examples of approved initiatives include hosting trade shows, constructing a cold storage facility, and developing promotional advertisements for tourism. The vast majority of programs granted to Newfoundland and Labrador organizations are under the Business Development Fund (Atlantic Canada Opportunities Agency, 2013d).

The *Young Entrepreneur Development Initiative (YEDI)* is a funding program that will assist organizations to improve the business potential of entrepreneurs in Atlantic Canada who are under 35 years of age. ACOA is willing to assist with the provision of skill building projects for youth such as entrepreneurship courses and workshops, events that encourage business planning, and youth business camps. ACOA is also willing to assist projects that support young entrepreneurs that are already established including mentorship programs, workshops, conferences that foster entrepreneurial learning, roundtable discussions, local support networks, and develop strategies that address youth out-migration (Atlantic Canada Opportunities Agency, 2013b).

The *Innovative Communities Fund (ICF)* is intended to build on the strengths of a community by supporting partnership of local stakeholders that contribute to sustainable growth. The objectives of the program include developing key industrial sectors, improving community infrastructure, and enhancing communities' ability to overcome economic development challenges by building on their strengths and assets. Organizations that are eligible for program assistance will have a

set project plan, work towards sustainable and viable economic activity, benefit the community, be consistent with contemporary challenges and opportunities in the community, and demonstrate ties to the community (Atlantic Canada Opportunities Agency, 2013c).

The following table depicts several sub-programs that relate to innovation in Newfoundland and Labrador. The value ranges and program descriptions are derived from funding that has been issued to organizations in Newfoundland and Labrador that is available on ACOA's website (Atlantic Canada Opportunities Agency, 2013a).

Table 3: ACOA Innovation Programs

Program	Funding Range	Program Description
Productivity and Business Skills (AIP)	$3,280-$50,000	ACOA will contribute to the costs of increasing a firms potential to produce. This may include bettering the workforce, incorporating new production strategies, or formulate a new business plan. Examples include hiring new staff, training staff, and re-evaluating business plans.
Aspiring Entrepreneurs (AIP-YEDI)	$3,000- $447,683	ACOA will contribute to the costs of an initiative that fosters the enhancement of entrepreneurial skills among youth, increases young entrepreneurial activity, and engages youth in the business community. Examples include the Junior Achievement rural expansion, youth career fairs, and student leadership conferences.
Trade, Education, and Skills Development (AIP)	$3,795- $986,060	ACOA will contribute to the cost of an initiative that fosters training, learning in the workplace, enhancement of skills, or exportation of products. Examples include mentor programs, reverse trade shows, trade missions, and improving business curriculums.
Proactive investments (ICF)	$20,502-$4,452,000	ACOA will contribute to the cost of an initiative that will better a community as a whole encompassing multiple industries and organizations. Examples include carrying out exploratory drilling, establishing a Titanic commemoration, and renovate existing marinas.
Innovation partnering service	$1,524-$17,440	ACOA will contribute to the cost of forming a partnership between two organizations that will likely lead to innovation on part of the participants. Examples of participants include

		Futureworks Inc., Genesis Group, and Long Island Resource Ltd.
Commercialization	$24,000-$320,000	ACOA will contribute to the cost of bringing a new idea to commercialization or to the availability of the public. Examples include designing the distance learning strategy, develop pilot projects, and attending a world education conference.
New product research and development	$3,220-$525,000	ACOA will contribute to the costs of conducting research and developing new products or services that are intended to improve an existing entity or commercialize a novel product. Examples include development of a Newfoundland ornamental plant, commercialize the wireless web extension plans, and provide consulting services for the helideck simulator.
Research infrastructure fund	$14,000-$454,200	ACOA will contribute to the cost of enhancing existing infrastructure for conducting research in formalized and practical settings. Examples include replace a liquid nitrogen facility, purchasing equipment to conduct genetic research, and establish fishery by-products research center.
Technology solutions	$14,000-$156,000	ACOA will contribute to the cost of researching and incorporating new technologies into practices to solve an ongoing problem. Examples include researching value-added forestry production, study waste diversion strategies for the province, and investigate by-product utilization.
Applied research and development	$64,000-$1.2 million	ACOA will contribute to the costs of a research endeavor that is expected to produce tangible results which can be applied to better actual practices. Examples include fishery research.
Technology internship	$17,325-$22,500	ACOA will contribute to the hiring of a new intern in a firm who will contribute to the technological awareness of a firm while providing experience to the individual. Examples include seismic Geophysicists, wireless software developer, and technical assistants.

Productivity and product enhancement	$4,704-$170,360	ACOA will contribute to the cost of a project that will improve an existing product or a firm's ability to produce. This includes improving technology and the capabilities of the workforce. Examples are conducting a cod grading pilot project, develop breaded and stuffed squid products, and host cod quality workshop.
Emerging fisheries development	$3,200-$525,277	ACOA will contribute to the cost of a development initiative related to the Newfoundland and Labrador fishery that will produce better results in processing, extraction, and sale. Examples include recovering crab liver from offal process, conduct sea urchin biomass study, and design a mechanical seaweed dryer.
Ocean technology contract fund	$144,000-$240,000	ACOA will contribute to the cost of developing a technological advancement related to oceans and marine industries. Examples include developing a selective harvesting system, developing mobile gear positioning system, and developing a high resolution hand held sonar.
Market intelligence and trade development	$3,568-$240,000	ACOA will contribute to the cost of determining the market acceptance and development of a new or improved program or service. Examples include exploring opportunities for exporting seal skins, develop a website for fisheries diversification, and hiring a coordinator for administrative support.
Export Opportunity Identification	$11,130-$115,500	ACOA will contribute to the cost of an initiative that ought to benefit an organization's potential to export commodities. Examples include attending trade shows, trade missions, and exhibit local work in foreign countries.

Source: Atlantic Canada Opportunities Agency, 2013a

National Research Council

At the federal level, the National Research Council (NRC) provides valuable funding opportunities to firms but also conducts and works with researchers. The organization will provide firm level research that will facilitate the commercialization of new or improved products, services, or methods of production or link firms with advanced researchers at recognizable institutions. Furthermore, NRC also provides tax credits to firms that conduct their own research in an attempt to promote research and innovation. A notable funding program NRC

provides is the Digital Technology Adoption Pilot Program (DTAPP). Through this program firms acquire the funding to purchase technologically advanced capital that will allow their firm to excel. Funding requires individual firm application that will be reviewed to determine necessary action. (National Research Council, 2013). One example of this programs success in Kittiwake is the acquisition of a traceability system for a food production company that allowed inputs and outputs to be tracked.

Research and Development Corporation

The Research and Development Corporation (RDC) was formed under the close supervision of the provincial government to enhance research and development capacity in the province. This is done by administering funding to businesses and academics to enhance the provincial innovative capacity and enabling researchers to carry out applied projects. RDC offers a variety of business led and academic led programs that focus on industrial, infrastructure, and commercial research. The target recipients for these programs are typically in high-technology fields such as oil and gas, ocean technology, and high-tech service providers. Programs are also offered to arctic regions to promote development in Northern Labrador. For academics, RDC provides incentives for young researchers to become involved in the private sector and advanced researchers in the areas of oil and gas, marine technology, arctic development, geo-sciences, and commercial R&D (RDC, 2013).

Clearly there is no shortage of opportunities for organizations and firms to avail of government funding for their initiatives. However, this may not actually translate into improvements to a region's innovation. As the following section on indicators will illustrate, applications to government for funding are not always approved and even when funding is received that does not always lead to innovation. While such programs may not always translate into innovation, their presence increases innovation capacity for the province. However, since 2006 Kittiwake has received $22,204,985.91 from ACOA and $329,073 from IBRD for innovative community and business activity.

Innovation Indicators

In addition to qualitative data collection described in the section that follows the research team sought quantitative indicators to gauge the level of innovation and innovation capacity in the Kittiwake region. Since there is no one statistic or index that captures innovation, a combination of data must be drawn upon. The following table will not only illustrate some fundamental indicators of innovation (e.g. patents) but also the regions innovative capacity (e.g. urban proximity). These indicators have been drawn from an extensive and growing literature on the role of innovation in economic development and methods of monitoring and measuring innovation.

Much of this data has been drawn from Community Accounts (2012a; 2012b), OECD (2012), and field data collection. Unless otherwise noted all statistics are from Community Accounts (2012b). In all cases the region for analysis has been the Rural Secretariat Region: Gander-New-Wes Valley.

Table 4: Innovation Indicators for the Kittiwake Region

Indicator(s)	Justification/sources	Kittiwake status
Innovation Capacity Indicators		
Availability of post-secondary institutions	Increased knowledge and experience generated in post-secondary institutions (Slaper et al., 2011; Rose et al., 2009; The Center for Innovation Studies, 2005).	College of the North Atlantic, Keyin College, and Flight training school in Gander. Some presence of MUN through Harris Centre, Engineering, and CRDRG.
Levels of post-secondary education	Education influences the quality of innovation within a given region (Slaper et al., 2011; Rose et al., 2009; The Center for Innovation Studies, 2005).	66.7% completed high school (4th out of 9 Rural Secretariat regions) and 9% hold a bachelor's degree or higher (5th out of 9 Rural Secretariat regions).
Training	The provision of training programs for employees may be correlated to an organization's innovation; quantity and quality of training opportunities should be considered (OECD, 2005; Rose et al, 2009; The Center of Innovation Studies, 2005).	Many organizations in the region stated that they encourage their staff to participate in reasonable training programs. Others administer training programs for their own operations.
Access to information technology and communications infrastructure	Martinus (2012) states that maintenance of various forms infrastructure is fundamental to networking, production, and innovating. Providing technological support systems will allow actors to function more efficiently.	KEDC worked on initiatives to enhance broadband but infrastructure (such as cellphone coverage) is reportedly lacking.
Urban proximity	Slaper et al (2011) state that the distance an actor is from an urban area will determine its ability to innovate.	333-367 kilometers from St. John's; Gander's population is, depending on definitions, considered urban.
Access to financing for innovation initiatives	The availability of programs and the ability of firms to apply for such programs is necessary supporting innovative endeavors (The Advisory Committee on Measuring Innovation in the 21st Century, 2008).	ACOA and IBRD have regional offices in Gander and oversee programs that foster innovation (see above).
Networking	The OECD (2010) expresses the value networking has on fostering innovation.	Conducting interviews or surveys that explicitly address networks could provide data to conduct

		network analysis; however, many in the region actively participate in networks and interact with other actors
Innovation Indicators		
Productivity; Regional Personal Income per Capita	Innovation will likely increase with productivity and subsequently induce increased wealth(Advisory Committee on Measuring Innovation in the 21st Century, 2008; Andrew et al, 2009; Rose et al, 2009; the Center of Innovation Studies, 2005).	Provincial productivity statistic is 44.6; Personal Income per capita is $24,300 (5th out of 9 Rural Secretariat Regions).
Applications for innovation support	The Advisory Committee on Measuring Innovation in the 21st Century (2008) asserts that measuring the amount of applications directed towards funding agencies is illustrative of innovation efforts	26 provincial applications were submitted to innovation programs since 2006 but only 3 were approved ($329,000 of a total provincial investment of $16.5 million). $22,204,985.91 from ACOA of a total $447,001,099.71 provincial investment.
Technology use	The level of and use of technology can indicate the level of innovation in an area (Slaper et al, 2011; OECD, 2010; OECD, 2005; Davies, 2010).	Few organizations stated that their technological capital was more advanced than expected (e.g. IPads and Skype).
Patents	Introducing new products and services into a region complies with traditional notions of innovation (Slaper et al., 2011; Rose et al., 2009; Davies, 2010; The Center for Innovation Studies, 2005).	0 in 2010 but there has been some contributions to patents in 2005 (0.3 patents), 2006 (0.2 patents), and 2008 (0.5 patents) (OECD, 2012).[3]

Clearly these indicators will favor urban areas that possess characteristics associated with innovation. For example, cities are often sites of post-secondary institutions, hubs for knowledge infrastructure, central offices for government departments, and sites for clusters (e.g. Donavon's Industrial Park in Mt. Pearl and Paradise). This notion is also emphasized in literature as cities are the alleged sites of creativity, wealth, and talent attraction (see Florida, 2002 for example). Therefore, based on the indicators, rural regions face a disadvantage innovating. However, as the Data Collection section will illustrate, resilient organizations provide the context for rural innovation. These organizations must contend with rural realities but necessary innovation and learning is a key strategy to survival.

[3] OECD patent data is not limited to integer numbers to reflect co-ownership of a patent. Furthermore this data will only reflect patent filed within the region(s) identified by the inventors.

The Advisory Committee on Measuring Innovation in the 21st Century (2008) states that there ought to be an index of innovation readily available to researchers. The committee also states that such an index would be instrumental to government with regards to designing and implementing innovation policy. In order to achieve such a goal, research would have to be conducted on multiple variables, with particular attention to indicators appropriate for rural as well as urban regions). The responsibility of forming an innovation index for Newfoundland and Labrador would likely fall to organizations deeply involved in community and regional development such as the Leslie Harris Center, the Rural Secretariat, IBRD, and academics conducting research in the area. Compiling this data would require some additional field research but considerable data already exists in the sources previously mentioned.

Data Collection

To accompany the above research, the research team conducted empirical data collection in the Kittiwake region. A total of 28 interviews were conducted with local government, non-government organizations, and other support agencies to assess the presence of innovation in their organization and the region. Along with innovation and learning, the questionnaire covered the other four themes of new regionalism: rural-urban interaction and interdependencies, place-based development, governance, and integrated development. Many of the interviews also addressed pressing issues in the areas of environmental stewardship, recreation, economic development, and watershed management. The software NVivo was used to analyze the interviews and code for specific themes within innovation and learning; the seven codes will constitute the following sections (see Appendix B). Each code was not necessarily present in each interview as new regionalism is a cumbersome topic and different respondents related to certain codes more than others.

In addition to the research conducted for the Canada Regional Development project, data collected for the Advancing Innovation in Newfoundland and Labrador (AINL) pertains to the Kittiwake region. This included interviews conducted with innovative firms in the region and a workshop held on May 14, 2013. This workshop involved presentations on regional development in the region, firm level innovation, panel discussions on innovation from business, and government perspectives, and discussions concerning regional challenges, opportunities, and strategies for supporting innovation (see Hall and White, 2013 for details).

The quantitative values associated with each topic are not necessarily reflective of that topics presence in the region. Semi-structured interviews did not follow a static format and relied on the respondent's individual experiences and knowledge. Furthermore, not all topics/themes within Canadian Regional Development could be investigated in each interview due to time restraints. This data is intended to provide some context for the discussion and identify significant presence or absence of a particular topic.

Innovation Support

In total this topic was discussed in 39% of the interviews (11/28). Programs that support innovation were likely to come from the departments of IBRD and ACOA, which are outlined above, but the interviewees discussed some specific programs they thought were innovative or supportive of innovation. One such program is the Cranberry program supported by the

Kittiwake Economic Development Corporation: this provided up to $15,000 from the Department of Natural Resource and the Agency for Forestry and Agri-food per acre for development costs associated with cranberry production. The Kittiwake Economic Development Corporation provides valuable resources and advice to regional actors that require assistance. Another programs is the Junior Achievements program offered in local schools foster youth entrepreneurism was also noted.

Innovation support initiatives need not be associated with funding or business development, they may be strategic plans geared towards innovation. For example the closure of the pulp and paper mill in Grand-Falls caused ACOA to lead a diversification plan with provincial and local government in an attempt to diversify the economy and find employment for the multiple individuals whose jobs were lost during the closure. This plan was successful as many of the workers found employment within one year of the closure; innovation was critical for firms in the region to adapt to the new workforce and generate employment. Several of those workers found employment in the new cranberry industry discussed above.

Businesses interviewed made particular note of the National Research Council's (NRC) Digital Technology Advancement Pilot Program (DTAPP) that enabled firms to purchase new equipment such as a traceability system for food production. ACOA was listed as an important financial supporter as they offered flexible no-interest business loans. IBRD was mentioned as another funding organization that provided funding for enhancing technology and training employees. A final organization that served as paramount importance in the region is the Central Continuous Improvement Network (CCIN) led by the Association of Canadian Manufacturers and Exporters (CME). This network consists of manufacturers in the region and engages firms in one-on-one training with CME (e.g. LEAN manufacturing) that seeks to improve business (White and Hall, 2013; 2013a).

AINL workshop participants added that red tape and difficulty accessing government funding was a challenge within innovation supports. Furthermore, some programs such as ACOA's Atlantic Innovation Fund is designed for larger firms and therefore excludes many businesses in the Kittiwake region. To amend this issue, participants stated that increasing government and program flexibility would be a potential strategy. Participants also agreed that increasing collaboration with post-secondary institutions would be another excellent innovation strategy (Hall and White, 2013).

Examples of Innovation and Openness to Creativity

In total this topic was discussed in 86% of the interviews (24/28). This topic included openness to change/risk/creativity, support for risk/creativity, and the actual introduction of new products and services (innovation). As most respondents were support agencies, their new products and services tended to be plans, programs, and strategies.

Over one-third (39% or 11/28) of the respondents discussed the openness to change, risk, and/or new ideas they believed is present in their organization and/or region to be. The negative connotation resistance to change is often given may have some bearing on this topic as organizations may not want to be seen conservative. However, some people did note that an older generation in the region is less open to new ideas. Typically the statement concerning

openness to change was accompanied by a discussion of new products, services or approaches that indicate some openness. Some respondents did claim that the region was not open to change and that risk was avoided. Furthermore, several of those claiming they were open to change or risks did not undertake initiatives that posed a financial risk. *"And that's how you stay relevant right you know you can't you can't be in this business if you can't be in this segment of events and conferences if you're not willing to evolve and change and accept new ideas so everybody is."*

Nearly one third of the respondents (29% or 8/28) discussed the introduction of a new product, service, process or approach by their organization or in the region. The majority of these discussions centered on new ways of doing things such as diversifying the organization's mandate. This largely included the formulation of new or improved plans/strategies (e.g. integrated community sustainability plan). However, respondents noted two initiatives that involve the introduction of new ways of doing things. According to one respondent, when the mill in Grand Falls closed many people were left unemployed. ACOA worked with provincial departments, local businesses, municipal governments, and the unemployed to plan and find work for these individuals. Within 6-8 months nearly of the individuals found employment in other areas of the private sector such as the emerging cranberry industry. The second notable initiative has been led by the Shorefast Foundation: to combat outmigration the Shorefast Foundation is attempting to introduce geotourism, encourage social enterprises, and promote the arts in their region (for more information see Shorefast Foundation, 2013). This will hopefully lead to increased employment opportunities, interest in the region, and a greater distribution of economic benefits. One government agency stated that the acquisition of funding often relied on new products or services: *"if we need new funding you almost always need the new programming and new ideas in order to get that funding and so yes we've developed tons of new activities and new programming and it's constantly changing all the time."* In addition to new products or service introduced by support agencies some firms were identified as being innovative. Some examples include Eastern Stare Group, Heli-One, Chatman's Bakery, New Wood Manufacturers, Versatile Stones Inc., Fogo Coop, and ASK Prospecting. One respondent even stated: *"this region seems to have more of an entrepreneurial spirit than other rural regions."*

One third of the respondents (32% or 9/28) discussed an example of their organization or another organization supporting a high risk investment. This was evident in organizations directly involved in funding businesses and other eligible actors. For example, ACOA offers low-no interest business loans and grants for organizations wishing to conduct community work. In most of their endeavors there is some risk given the challenges businesses face in the region.

More than one third of the respondents (36% or 10/28) discussed an example of evidence that there is support for local businesses in the region. All of the discussions on this theme discussed the: buy Kittiwake or buy local Kittiwake campaign. This initiative is supported by an array of actors but is not widely acknowledged in the region. It was also mentioned that local firms encounter difficulties competing with major suppliers such as Walmart, Costco, Sobeys, and Dominion (see Skeard, 2013 for a greater discussion on the 'Keep it in Kittiwake' campaign).

Learning Resources

In total, 57% of the respondents (18/28) discussed some resources for learning in the region or their organization. Most of these discussions were centered on organizations supporting training for their staff through professional development seminars or other forms of learning. This pertained to municipal councilors, provincial government staff, and non-government officials. Smallwood Economic Development Corporation (SEDCOR), a Gambo based organization that seeks to foster sustainable community growth, even supports training for their volunteers to ensure adequate performance on all projects. Some other notable forms of learning include IBRD's program toolkit for businesses, the aerospace hub in Gander which trains people in the field, and the Junior Achievement school program that teaches business ethics to students. An important learning initiative the linked Memorial University with the region was the Community of Practice modelled project that allowed Geography students to develop community development toolkits (see cdresources.wordpress.com for project details). Respondents suggested that it is possible that there would be greater resources for learning had there been more post-secondary institutions established in the region.

Knowledge Infrastructure

Unfortunately this theme only appeared in 25% of the interviews (7/28) indicating a serious lack of knowledge infrastructure in the region (i.e. post-secondary institutions and technology). However, an additional 18% of the respondents (2/28) discussed problems associated with the lack of knowledge infrastructure in the region. Only a representative from Gander discussed the presence of new technologies in their organization: Skype and the IPad. This is largely due to the inadequate cellphone and internet services in the region. This is becoming especially problematic as: *"the way technology is going, communication is key especially in rural locations where speed of communication and bandwidth and also the cost of communication is extremely important, especially when we're isolated."* This respondent also noted that lack of competitive service providers resulted in poor quality internet and cell phone coverage. AINL participants also discussed the lack of knowledge infrastructure in the region (i.e. few post-secondary institutions and poor internet and cell coverage) (Hall and White, 2013).

The region's knowledge infrastructure is also negatively impacted by the lack of nearby post-secondary institutions. There are some post-secondary training facilities in Gander but these did not constitute a discussion in the region. However, some organizations did report that they worked with Memorial University on specific initiatives. For example, Terra Nova Park worked with Dr. Alistair Bath on snowmobiling issues, the Indian Bay Ecosystem Corporation has worked with members of the Biology department, and KEDC has worked with the Harris Center on regional development workshops.

There is some hope that knowledge infrastructure in the region will be improved. A government representative stated that their infrastructure is a work in progress and they are continuously trying to improve quality. Furthermore, a community leader stated that there were previous discussions around establishing a university campus in Gander or Lewisporte. This discussion took place under the Wells provincial government but has not since been recently examined; furthermore, agreeing on which community would house the campus generated heated arguments. The AINL participants also stated that increased collaboration with post-secondary institutions would strategically support innovation (Hall and White, 2013).

Knowledge Partners

In total 89% of the respondents (25/28) discussed this theme in their interview. The team sought examples of partnerships among different affiliated organizations (government, businesses, and NGOs), across sectors, the nature of these partnerships, and instances that support theoretical models:

> *"Yeah I mean people there's a general feeling the community in Newfoundland in particular that you know everything is top secret, well nothing's top secret I hate to break it to them. Because first of all, you can't work in isolation right. The second you engage someone else you already opened the door and information flows so there's no such thing as top secret […] in terms of best practices there's a lot of information that can be shared…"*

Nearly half of the respondents (43% or 12/28) discussed a partnership that involved two or more government organizations. These discussions contained three general themes: multiple municipalities working together, individuals in the same department partnering across jurisdictions, and the most common example: different levels of government (local, provincial, and federal) partnering. An example of the first type of partnership would be Twillingate partnering with Crow Head for service delivery, and Gander on service sharing and community issues. An example of the second would be IBRD economic development officers working together on cross-regional initiatives. An example of the third would be ACOA working with Human Resources, Labor, and Employment (HRLE), IBRD, and regional municipalities on environmental screening and community development inititives. This also includes partnerships with public post-secondary institutes such as MUN, although most people identified specific departments such as Biology and Geography.

Among these 12 respondents who discussed government to government partnerships, approximately 6 discussed knowledge sharing within partnerships and/or knowledge-specific partnerships. These included provincial and federal government relationships (i.e. ACOA, IBRD, and Rural Secretariat) that exchange information on community development. Municipalities Newfoundland and Labrador (MNL) was also an instrumental actor when forming knowledge partnerships among local governments. For example, MNL oversees, the Bonavista North Joint Council which connects all municipalities in that region.

Half of the respondents (50% or 14/28) discussed a partnership between two or more non-government organizations. This included a variety of organizations with different mandates. For example there were recreation groups such as the 50+ club partnering with the Lion's Club offering social events (e.g. Canada Day celebrations), conservation groups like IBEC partnering with First Nations groups to implement ecological monitoring and enforcement programs, and economic development groups like the Twillingate-New World Island Development Association (TNWIDA) partnering with the KEDC for development initiatives.

Within these NGO partnerships, approximately 5 respondents discussed examples of partnerships that relied on knowledge exchange. This includes organizations such as the KEDC working with other REDBs (through NLREDA) and similar development organizations like the

Twillingate, New World Island Development Association. Unfortunately, sine the recent funding cuts to the REDBs, this important NGO is no longer present in the region or province (Gibson, 2013).

More than half of the respondents (54% or 15/28) discussed a partnership that involve two or more actors from across different affiliate organizations. This involves NGOs, government, and businesses working together. Typically, government and NGOs would partner with the chamber of commerce rather than individual businesses. Furthermore, municipalities were more likely to partner with organizations in their immediate geographic location indicating the value of having regional actors rather than one centralized office.

Etzkowitz (2008) describes the triple helix, a partnership between government, post-secondary institutions, and the private sector, as being key to innovation. However, this concept has been expanded by Foray et al. (2012) to include NGOs. Clearly the presence of the NLREDA supported this expansion of the theory. The research team sought examples of this theory in the kittiwake region and discovered some projects/initiatives where the theory was evident. One example is the Keep it in Kittiwake campaign which requires the support of local governments, KECD, local firms, and the research team. An example of the quadruple helix is the delivery of Harris Center Regional Workshops. This involved funding and planning from local government and KEDC to bring a post-secondary institution to the region to work with firms and other regional actors. A third initiative that fits this framework is the presence of the Aerospace cluster in the Gander area. This was made possible through government and NGO planning, private sector interest in the industry/region, and it produced post-secondary training facilities.

Despite the importance of this theory in the innovation literature, triple and quadruple helixes are not prominent in the Kittiwake region. There are two factors that contribute to this problem. The first is the absence of an engaged post-secondary institution in the region. Due to distance from the St. John's and Grenfell Campuses of Memorial University, Kittiwake encounters difficulties working with researchers. There is, however, funding available to organizations wishing to engage in research with the university through NRC, IBRD, ACOA, and other research funding agencies. The second challenge is an alleged retreat from rural regions by the provincial government. One respondent simply stated: *"this is my impression, the Newfoundland government wants nothing to do with rural."* Clearly there are restrictions on two central tenets of the triple and quadruple helixes but the examples outlined above are evidence that these challenges are not unsurpassable.

Reflection and Knowledge Sharing

In total, this topic was discussed in 79% of the interviews (22/28). This topic surrounded examples that pertained to ideas within an organization and how they shared between actors. While this topic is similar to knowledge partnerships, sharing ideas is typically a short-term process.

Nearly two thirds of the respondents (61% or 17/28) claimed to conduct some form of reflection or evaluation. This includes any form of looking back on previous initiatives or experiences, whether through formal mechanisms such as organized reflection sessions and written reports or more informal processes of reflection in day-to-day operations. Only 18% of the respondents

(5/28) conduct formal evaluations. For example, the Chamber of Commerce hosts annual meetings and membership surveys where input on their activities is sought, the Indian Bay Ecosystem Corporation is planning a retreat for reflection, and IBRD surveys clients for performance results. Others conduct informal reflection/evaluation whereby previous initiatives were discussed at organization meetings or by individuals; *"we bring the group together and there are issues raised and we deal with them one issue at a time"*.

Nearly half of the respondents (46% or 13/28) claimed that they shared information or ideas with other organizations. For support agencies with budgets for sharing/educating workshops, consultations, and toolkits were popular methods of informing others. Otherwise several respondents stated that informal conversation was a simple method of sharing ideas learned from past experiences. Furthermore, organizations such as ACOA, IBRD, and the zone board have different staff operating in separate regions; *"we do get together every quarter myself and the other field officers and we sit down and we talk about probably two or three projects that we're doing in our area that might be specific to our area."* This form of sharing allows lessons learned from one region to be transferred to another.

Half of the respondents (50% or 14/28) discussed situations when they sought ideas or new ways of doing something from an external source. This centered on contacting other organizations to learn what they are doing and how one's organization can incorporate new ideas into their own practices. The most notable example was conducted by the Gander and Area Chamber of Commerce. The chamber brought in marketing expert and Dragon's Den star Arlene Dickenson to speak to member firms. For local governments, public consultation and engaging their constituents was the most popular form of seeking ideas. Other examples include researching on the internet, attending workshops/ tradeshows, and informally conversing with other actors.

Challenges to Innovation

In total, 93% of the respondents (26/28) discussed this topic in their interview. Unfortunately, the challenges topic was the most commonly discussed code this is also reflective of the variety of challenges associated with rural regions. The most prominent challenges were accessing capital, demographics, policy, and human resources. Other, less commonly discussed challenges include trust, lack of knowledge infrastructure, and lack of time.

One third of the respondents (32% or 9/28) discussed challenges to innovation that resulted from a lack of trust between regional actors. There were several explanations for the lack of trust/collaboration in the region. The first is a fear of amalgamation with other small communities or with larger municipalities; this fear causes an insularity of the individual municipalities. A second reason for mistrust in the region is the perception of neglect of certain communities. Some respondents stated that their communities believed they were excluded from provincial activity (i.e. all the activity was on the Avalon Peninsula).

> *"This is my impression. The Newfoundland government wants nothing to do with rural, and the sooner you find that out the sooner you can make other decisions because no matter what they say, no matter what they project you're the last on the totem pole. Look at what's happening with the cuts to education and the cuts to all that. Everything is going to be centralized in St. John's, right?"*

Furthermore, the people of Twillingate and Fogo Island claimed they were excluded from the rest of the Kittiwake region as they are not physically attached to the region and felt isolated. Other than these perceptions, mistrust was often induced by community/personality differences.

Half of the respondents (50% or 14/28) discussed how demographics have created a barrier to innovation. The common discussion on this issue pertained to a lack of young people in the region and a declining population resulting from outmigration. The combination of these phenomena has produced a smaller aging population that is allegedly more conservative. This conservative population is said to be less open to change or new ways of doing things compared to younger people. Furthermore, continual declining levels of young people may mean the region will eventually become depopulated, threatening the survival of businesses, organizations, and communities. As one respondent stated: *"We need people. We need young people."*

Half of the respondents (50% or 14/28) discussed a challenge to innovation that was generated by a conflict with policy. One of these policy conflicts was the EI policy in the region; 11% of the respondents viewed EI as a crutch that created a complacent workforce: *"if you talk about policy I think the most challenging one is the EI program so it makes it difficult in having the right motivation and getting people to participate in projects."* Other conflicting policies included a fisheries policy that only requires minimal processing of products in the province, Recreation NL only supporting larger municipalities, and that accessing government programs was far too complicated. A final, major policy that has created challenges to innovation was the recent funding cuts to the Regional Economic Development Boards in the Atlantic Provinces (Gibson, 2013; Vodden et al, 2013).

More than half of the respondents (54% or 15/28) discussed challenges to innovation that were associated with difficulties accessing capital (financial or other). Respondents discussed financial capital, financial support, and funding in general. Most of these organizations experienced difficulties accessing financial capital regardless of their affiliation (NGO, businesses, municipalities, and higher levels of government). This includes funding for recreation, bank financing, a tax base for local governments, business supports, and funding for rural areas in general. Once again the notion that government resources are not easily accessed was mentioned as a deterrent. The AINL participants also agreed that excessive red tape limited actors from accessing some government programs (Hall and White, 2013).

Nearly half of the respondents (46% or 13/28) stated that problems with human resources was a barrier to innovation in their organization/region. Other than issues with organizations being understaffed, 25% of the respondents (7/28) expressed a concern with (the lack of) volunteers. Another issue was the lack of skilled labor available in the region, which may be linked in part to the lack of training institutions in the region. For example a representative in Gander stated that there were regional actors working in economic development that lacked appropriate training/experience. Another problem with human resources was the EI issue discussed previously. 18% of the respondents (3/28) suggested that reliance on seasonal employment created a complacent workforce that does not participate in regional development activities.

Some respondents (18% or 5/28) discussed challenges to innovation that did not fit within the previous codes. These 'other' challenges referred to regional knowledge infrastructure. 18% of the respondents (5/28) discussed regional problems with cell service, internet availability, and technology in general. One respondent noted:

> *"The residents miss out on a social opportunity because of lack of their access. Cellphone coverage – when people come here and they're on Rogers they don't have cellphone coverage right most people even if even if they're on holiday they're here but they have their cellphone they need to be connected if they're not connected they're going to where they can get connected and that's in St. John's"*

Furthermore, the absence of post-secondary institutions in the region was discussed by the respondents, as noted above. Other challenges included businesses settling in cities such as St. John's rather than the region, organizational boundary changes, and time shortages for staff to explore, pursue, and share innovative ideas.

Business Interviews illustrated challenges that pertained to the private sector in the region. Some challenges include competing with mega-projects (e.g. Long Harbor) for skilled labor, difficulty applying for government funding, access to capital, and distance to markets (White and Hall, 2013; 2013a; 2013b).

AINL participants also listed an array of challenges to innovation they perceived in the region. The three most prominent challenges were understanding what innovation is, accessing capital, and allocating time to innovation. Other challenges include lack of government support/policies, accessing markets, lack of knowledge infrastructure, access to labor, difficulties commercializing, lack of collaboration, and transportation (Hall and White, 2013).

Lessons from the Private Sector

The Kittiwake region is home to many innovative firms, some were previously mentioned as examples of innovators. The AINL project took a greater examination of notable organizations in the private sector, highlighting innovations, challenges, key strategies, and future potentials. This section will provide some notable examples from that research that applies to the Canadian Regional Development innovation and learning theme.

A notable organization is the Central Continuous Improvement Network (CCIN). This network was formed by CME and is composed of seven manufacturing firms in the region. Firms received one-on-one training/mentoring from CME such as LEAN manufacturing training. The members of the network also host innovation tours of their firm that demonstrates their production and some of their innovations. This network not only seeks to increase the efficiency of each member firm but also fosters learning and sharing among the private sector. CCIN has also fostered important partnerships for member firms. For example, CME and Versatile Stones Inc. worked with NRC to bring a researcher to the region to offer insight on Versatile's stone curing process; this is also an example of a triple helix partnership (White and Hall, 2013).

Understanding one's market is vital to the survival of businesses in rural Newfoundland. The business cases demonstrated excellent awareness of market dynamics, consumer needs, and

challenges they needed to overcome. New Wood Manufacturing has brought in several new products and services since opening in 1989 to accommodate market demands. Furthermore, the firm's small operation provides them the ability to downsize during difficult economic conditions. This gives New Wood a key advantage over larger firms that require mass production to survive (White and Hall, 2013a).

The firms also uphold an openness to change and try new ways of doing things. When New Wood first opened in 1989 their primary product was moldings. Since then they have diversified into finger jointing, spindles, staircases, cupboards, and customized posts. When the market demands something else, New Wood adapts to meet these demands (White and Hall, 2013a). Similarly, Chatman's has made several changes to their production that ensures consistency and a high quality product. They are willing to try new recipes and have experimented with a chocolate machine to further expand their products (White and Hall, 2013b). The existence of Versatile is itself a risk; the firm's owner moved to Newfoundland from Ottawa to be the only provider of cultured stone in the province. This willingness to try new things and takes risks often lead to innovation (White and Hall, 2013).

All of the businesses that were interviewed used some form of external support to better enable their production and innovation. Chatman's bakery used NRC's DTAPP funding to purchase equipment for their traceability system that tracks inputs and outputs of their products (White and Hall, 2013b). New Wood has received over 10 interest free loans and grants from ACOA for purchasing equipment and business expansion (White and Hall, 2013a). Versatile worked closely with IBRD field staff to establish the business and begin initial production. The firms also utilized support from post-secondary institutions (White and Hall, 2013). Chatman's worked with a student from College of the North Atlantic, Ridge Road campus (CNA) to improve identify weaknesses in their production that could be improved (White and Hall, 2013b). Versatile has worked with different engineering researchers that have assisted with concrete strength testing and improving methods of producing stone (White and Hall, 2013). Without the assistance of these support agencies, the firms would lack the resources or knowledge required to carry out some innovative projects.

Firms in the Kittiwake region must contend with the challenges of operating in a rural environment. However, participants of the AINL project have affirmed their niche in the market, despite their location. By working together and utilizing the support structures available to them, these firms have overcome challenges and surpassed all expectations with their innovation. Both the public and private sector can learn from these actors and the processes that were necessary to their success.

Moving Forward

Respondents in the Canadian Regional Development project provided valuable insight to their experiences with new regionalism, regional development, and innovation. However, challenges within their region and a dynamic social, economic, and political environment left uncertainty for the future of innovation in Kittiwake. As part of the AINL project, participants were asked to identify the top challenges (discussed above), opportunities, and strategies for advancing innovation in their region. This exercise allowed different levels of government, support

agencies, and firms to interact and share their views, concerns, and potential for the future (Hall and White, 2013).

The participants identified six key strategies that would improve innovation and regional development in Kittiwake. The strategies are listed in order of the most support to least support:

- Innovation Open Hours/Innovation Tours
- Training and Human Resources Strategies
- Increased Collaboration with Post-Secondary Institutions
- Increased Awareness of Innovation Support Programs
- Lower/no Interest Rates
- Increased Flexibility in Government Support Programs

The research team was fortunate to participate in Innovation Tours while visiting the region. Versatile Stones Inc. and New Wood Manufacturing both offered a tour of their business sites to demonstrate how they operate and what they produce. This allowed multiple interest groups to learn from innovators and understand their process. These tours are a simple method of celebrating success and encouraging an innovative culture within the region. This is also an excellent method of sharing one's innovative ideas with others and generating support for local industry (Hall and White, 2013).

Both training and HR strategies and collaboration with post-secondary institutions were challenges that were identified in the region. Encouraging and utilizing training funds/ opportunities can provide staff with necessary skills and improve the organization's capacity to innovate. Outreach from post-secondary institutions and the private sector should be encouraged and facilitated. There have been some examples of the university working with actors in the region but there is still room for improvement (Hall and White, 2013).

The remaining three strategies relate to accessing capital/funding. Clearly support agencies need to increase awareness of their programs, improve their understanding of clients, and increase their openness to new things (Hall and White, 2013). As illustrated in the previous section, financial support is instrumental in the innovation process. Increasing the awareness and flexibility of support programs will encourage firm-level innovation and move more innovative projects forward enhancing regional development.

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Appendix One: Code Descriptions

Topic	Nvivo Code	Explanation
Resources for Learning	Lr100	Places, entities, programs or types of materials where individuals and acquire knowledge.
Human resources	Lr110	Programs, leadership and investments that supports learning for staff, students, or the workforce in general.
Support for individual learning	Lr120	Learning processes or supports that provide knowledge to specific individual needs.
Knowledge Partners	Kp100	Working with another actor to give and receive knowledge or experience.
Intergovernmental	Kp110	Multiple government departments sharing knowledge; possibly at different scales.
Business-Business	Kp120	Multiple firms sharing knowledge.
NGO-NGO	Kp130	Multiple Non-Government Organizations sharing knowledge.
Cross-Sector	Kp140	Different actors from separate sectors sharing knowledge; examples of triple helix and quadruple helix partnerships were sought.
Reflection and Sharing	Rs100	Sharing/seeking ideas and reflecting on past experiences.
Internal reflection	Rs110	Looking back on previous ideas or experiences through formal or informal means.
Sharing	Rs120	Expressing experiences or ideas with others so they can learn from you.
Seeking	Rs130	Actively searching for new ideas from other organizations through research or interactions.
Innovation Support	Ip100	A project or program that explicitly addresses innovation.
Public Sector	Ip110	An innovation support project sponsored by a public organization.
NGO	Ip120	An innovation support project sponsored by a Non-government organization.
Private Sector	Ip130	An innovation support project sponsored by a private firm or group of firms.
Examples of Innovation and Openness to Creativity	Op100	The respondent (and/or their organization) is open to new ideas or different ways of doing things.
New products or services	Op110	Introduced a new product or service in the past 3-5 years. This may also be a new initiative or process considered innovative by the respondent.
Self-employment	Op120	Evidence of entrepreneurism in the region/organization
Support High Risk Financing	Op130	Projects that may not be successful are supported; indication of risk taking.

Entrepreneur Training	Op140	Training is available that betters the region's entrepreneurial spirit.
Social Enterprise	Op150	An organization that improves regional social and economic well-being.
Support Local Actors	Op160	There is evidence of support for local firms or non-private organizations through consumerism
Culture open to change	Op170	The region or respondent is open to changing/adapting their way of doing things
Knowledge Infrastructure	Ki100	There are structures in place that foster the acquisition or dissemination of knowledge.
Presence of Post-secondary institutions	Ki110	There is a learning institution such as a college or university in the area (or comments that these did not exist = absence).
New Technologies	Ki120	Organizations have incorporated new technologies into their ordinary operations (or comments that technologies have not been incorporated = absence)
Technology Centers	Ki130	A concentration of technological actors in the region.
Challenges to Innovation	Ci100	Anything that limits actors' innovation or innovative capacity.
Trust Issues	Ci110	Actors lack a willingness to work together due to a lack of trust.
Demographics	Ci120	Problems with the regional population limit the region's innovative potential.
Policy Conflict	Ci130	There is an existing policy that restrains an organizations ability to innovate.
Leadership Issues	Ci140	The leader or executive of an organization is preventing the organization from innovating.
Access to Capital	Ci150	An organization cannot access some form of capital such as human, financial, or resources.
Human Resource Issues	Ci160	An organization cannot innovate because of problems with staff or human interactions.

N.B. Each bolded heading is the overarching theme and subsequent headings are subthemes. Each theme had and unclear code (xx190) that simply reflects an unclear statement that did not fit with any other subtheme.

Canadian Regional Development
A Critical Review of Theory, Practice, and Potentials

Développement régional canadien
Un examen critique des théories, des pratiques et des potentiels

The *Canadian Regional Development: A Critical Review of Theory, Practice and Potentials* project is a multi-year research initiative funded by the Social Sciences and Humanities Research Council of Canada. The project is investigating how Canadian regional development has evolved over the past two decades and the degree to which Canadian regional development systems have incorporated ideas, policies and practices associated with "New Regionalism" into their policy and practice.

The project is conducting an empirical assessment of Canadian regional development using a multi-level, mixed methods case study approach in four provinces: British Columbia, Newfoundland and Labrador, Ontario, and Québec. The assessment of regional development across the case studies is based on the five key themes of New Regionalism: i) collaborative, multi-level governance; ii) integrated versus sectoral and single objective approaches; iii) fostering knowledge flow, learning and innovation; iv) place-based development; and v) rural-urban interaction and interdependence.

Kelly Vodden (Environmental Policy Institute, Grenfell Campus and Department of Geography, Memorial University) is leading the project, together with co-investigators David Douglas (School of Environment Design and Rural Development, University of Guelph), Sean Markey (Geography, Simon Fraser University), and Bill Reimer (Sociology and Anthropology, Concordia University). In addition, graduate students at all four universities are engaged on the project.

Further information on the project can be obtained at *http://cdnregdev.ruralresilience.ca*. The project has been financially supported by the Social Sciences and Humanities Research Council of Canada and the Leslie Harris Centre for Regional Policy and Development.

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