

# Economic Development Framework of Small Communities in Canada

## Phase Two: Economic Clustering Approaches for Small Communities

### Literature Review

Prepared by:

David Bruce, Rural and Small Town Programme, Mount Allison University  
Greg Halseth, Geography, University of Northern British Columbia  
and Laura Ryser, Geography, University of Northern British Columbia

Prepared for:  
Jessica Yen  
Canada Mortgage and Housing Corporation  
Ottawa

August 2004

<b>Table of Contents</b>	<b>Page Number</b>
Introduction - Phase II Overview	3
Phase I Report Review	4
Exploring Characteristics of Small Towns	5
Categorizing Small Places by Economic Function - Clustering Approaches	12
Discussion of Indicators of Characteristics of Small Towns	17
Conclusion	24
Appendix A	29
Bibliography	30

**List of Tables**

Page Number

---

Table 1:	Function Classification of Small Towns - Everitt and Gill	14
Table 2:	ERS Typology for Rural Diversity I	15
Table 3:	ERS Typology for Rural Diversity II	16
Table 4:	Hawkin's Typology of Small Towns Across Canada	16
Table 5:	Range of Approaches for Clustering Small Towns	17
Table 6:	Degree of Reliance of Rural Communities on the Forest Products Sector by Province, 1991	18
Table 7:	Distribution of Communities Heavily Reliant on the Forest Products Sector by Size of Community, 1991	19
Table 8:	Location Quotients of Relative Intensity of Employment by Industry in Rural and Small Town Areas Compared to the Province	19
Table 9:	Comparison of SIC and NAICS Classification Schemes Used by Statistics Canada for Employment	21
Appendix A:		
Table 10:	Economic and Other Variables for Community Classification - 1996 Census, Statistics Canada	29

## **Introduction - Phase II Overview**

Small places vary not only by size, population density, and economic activity, but also by the degree of economic development. Over time, some places have matured, others have remained undeveloped, and others have declined or even disappeared. The specialization of many economies in rural and small town places has made them particularly vulnerable to boom and bust cycles, or resource depletion, particularly in resource-based economies (OECD 1996: 49). As employment has declined in traditional sectors, some towns have attempted to diversify their economic base as a strategy for rural revitalization (OECD 1996: 49).

To date, there is no analytical tool to simultaneously assess the economic characteristics and economic maturity status of small communities in Canada. So far, methods to classify rural areas reflect the different agencies interested in the results (Hawkins 1995; Cook and Mizer 1994; Robinson 1990). However, it is important to recognize that the scope of restructuring, as well as the experiences, stress, and opportunities for small places, will differ across Canada. This is because each place offers a diverse range of social, economic, cultural, and environmental landscapes, which provide each place with different strengths, weaknesses, and characteristics (Hawkins 1995).

This project is intended to develop a framework that will enable analysts to gauge the stage of economic development of small places. This project will categorize small places by major economic activities. Within this context, it will illustrate the potential range of the framework in classifying the community stages of economic development activity. Developing a set of indicators within well defined geographical settings will help to facilitate communication and comparison of the conditions in rural and small town places, not only within regions, but also provincially, nationally, and internationally (OECD 1994). It will focus attention on the Low MIZ and No MIZ categories identified by Statistics Canada. As a starting point for understanding the economic 'trajectory' of any given place, it is important to know which type(s) of economic activity (activities) is (are) dominant in any given community.

The purpose of this literature review is to identify one or more 'clustering' approaches to categorize the communities into economic sectors or activities. To begin, this paper will explore characteristics of small towns that have been identified with a particular economic sector, such as forestry, oil / gas, mining, fishing, tourism, or mixed economies. Thereafter, a range of clustering approaches will be explored to provide a foundation for developing economic indicators to cluster rural and small town places by economic activity.

## Phase I Report Review

The purpose of the first phase of this project was to provide background information on the different types of small communities across Canada from a territorial perspective. Different territorial units provide a foundation for evaluating the housing issues facing rural and small town places, and facilitate the decision making process. Key housing issues previously identified included:

- a sufficient population size as to have a functional housing market;
- an organized territory, such as local government areas, formed through CSDs in order to provide a foundation for basic data collection and linkages to the building blocks used by Statistics Canada definitions; and a
- regional context to capture a functioning housing market through the pressures organized within commuter influenced labour markets (Bruce *et al.* 2004: A-41).

Consequently, there were five key recommendations to set the geographical context that would provide a foundation for exploring economic clustering approaches in phase II of this project (Bruce *et al.* 2004).

- First, CSDs were recommended as a territorial unit for evaluation of housing issues as they provide stability to facilitate comparison over time.
- Second, characteristics of CSDs will be examined within the context of their respective CDs in order to provide a comparative regional context. This is particularly important when examining labour markets that are not confined to function within one single place, but in which are fluid between places.
- Third, CSDs are also examined according to their MIZ classification to provide additional information about the region in which rural and small town places are located and to determine levels of metropolitan influence. ‘No’ and ‘weak’ MIZ categories will be used to identify economic trajectories for rural and small town places removed from metropolitan areas.
- Fourth, Indian reserve and federal reserve lands are removed from the analysis due to their unique property tenure and housing market characteristics that limit comparisons to other places.
- Fifth, places which have fewer than 50 residents are excluded because they are too small to have a functional housing market. Two upper population thresholds were also outlined, including places with 2,500 residents and places with 5,000 residents that enable two community clusters based on population size to be examined.

## Exploring Characteristics of Small Towns

To date, much of the research on small towns has explored the important roles of different economic sectors as they have restructured. Understanding changes in economic activity is key to understanding various stages of development of rural and small town Canada. As such, this section will briefly outline some general characteristics identified for small towns that have been driven by a particular economic sector. Examples include agricultural towns, fishing towns, forestry towns, mining towns, oil and gas towns, tourism towns, commuting towns, and towns with mixed economies. This section will also highlight some of the restructuring challenges that have confronted these small towns over time.

### *Agricultural Towns*

Before World War II, agricultural towns had been well established in many regions and shipped product by roads and railways (Robinson 1989). Over time, agricultural communities have experienced a range of changes, such as the impacts of mechanization, transportation changes, labour shedding, and diversification. Farms have become larger, more mechanized, and include the use of bigger machinery and new fertilizers and pesticides (Effland 2000; Everitt and Gill 1993; Robinson 1989). Some grain farms became operated by seasonal absentee land owners who preferred to live in larger centres with more services. This was possible for certain farm types, such as grain farms, which do not have livestock and do not require year round staffing. Robinson (1990) further notes that labour shedding, often associated with mechanization, and reduced incomes led to the out-migration of some agricultural communities.

Changes in transportation also impacted agricultural towns as trucks for hauling grain widened the distribution range, so that grain elevators were no longer required over short distances. Everitt and Gill (1993) and Robinson (1990) explain that in small Prairie towns, the removal of rail lines, grain elevators, post offices, as well as the mechanization of agriculture, led to declines in both the number of farms and farm population during the 1980s. As such, the number of places dependent upon agriculture has been declining (Effland 2000).

Without diversifying their economies, agricultural communities may face additional pressures from downsizing or even closure. Luloff (1990: 14) noted that “rural towns are thought of as serving the needs of an agricultural economy.” Changes experienced by local feed, seed, and fertilizer stores, farm machinery sales and service shops, and farm credit organizations provide clues to the impacts of agricultural boom and bust cycles. Small towns that do not pursue non-farm economic opportunities may further decline, not just due to socio-economic changes to farming hinterlands, but as a result in changes in non-farming economic activity taking place in their region (Swanson 1990: 28). Alternative regional employment opportunities may pull residents from farming communities, who may commute and ultimately migrate to another town for employment. These changes have become noticeable across Canada. Over the past two decades, it has become apparent that with the exception of Prince Edward Island and the prairie provinces, a very small proportion of the population has been engaged in farming when examining farm and non-farm characteristics (Hay 1992: 24). However, some small towns that have been traditionally engaged in agricultural production are now diversifying their economic activity and are also active in processing and manufacturing, as well as functioning as new centres of industry or dormitory towns for nearby urban centres (Ziebarth 2000; Everitt and Gill 1993).

The social character of agricultural towns has also been changing. Small prairie towns have aging populations, with the exception of places that are within commuting distance to urban centres (Halseth 1998; Everitt and Gill 1993). Furthermore, as some agricultural communities decline, the ethnicity, and hence cultural fabric, of these places are changing, especially for places founded by specific ethnic and cultural groups (Robinson 1990).

Economic characteristics for households in agricultural communities have also changed. There are an increasing number of family farms pursuing off-farm income, indicating a greater dependency on non-farm economic sectors (Swanson 1990). It is important to note, however, that the pursuit of off-farm income is not new. Effland (2000) noted that farmers have been pursuing off-farm income since the late 1920s. Such off-farm income can help farms stay in production by supplementing staggering farm income (Swanson 1990).

With mechanization and larger farms, incomes have declined and the percent of families below poverty has become higher (Robinson 1990; Swanson 1990). Furthermore, in the U.S., farming counties were characterized by higher rates of unemployment (Swanson 1990). As out-migration occurs in agricultural communities, local dependency ratios become high (Luloff 1990).

### *Fishing Towns*

Fishing towns have also been impacted by mechanization and industrial restructuring over time. Changes facing towns dependent upon the fishing industry include changing technologies and regulatory structures, depleted groundfish stocks, and the introduction of new activities such as aquaculture and tourism (Marshall 2001). Within this context, the social structure of fishing towns has also changed since the early development of these places.

The fishing industry has been marked by one of exploration and discovery to the expansion of fishing activities, followed by consolidation. In British Columbia, for example, the expansion of canneries to process fish was noticeable between 1870 and 1900 as the industry expanded along the coast (Stauffer 2001). However, in tracking the geography of the canning industry in B.C. until the 1970s, Stauffer (2001) found that spatial consolidation was occurring as isolated canneries were closed. Instead, strategic canneries were located in close proximity of large spawning rivers, ports, rail connections, and labour pools.

After 1977, fishing improved after Canada extended its fisheries jurisdiction from 12 to 200 miles (Clemenson 1992; Sinclair 1992). This was followed by the recession of the early 1980s that brought high interest rates, high oil costs, and low product prices. Fish processing companies had difficulties, with many restructuring between 1983-1985. Despite these changes, fishing towns had maintained a stable population in terms of net population growth or decline between 1976 and 1986 (Clemenson 1992).

However, because of inaccurate information, quotas were set too high to permit rebuilding of the stock. Haddock, redfish, and cod are the major groundfish species in Atlantic Canada, and have been overfished (Sinclair 1992). After 1989, the industry experienced low fish prices and declining fish stocks that resulted in lower quotas. With declining stocks and loss of revenue in 1989, National Sea Products and Fisheries Products International announced plant closures and fleet reductions in Atlantic Canada (Sinclair 1992). Other fish processing plants closed or downsized, resulting in many job layoffs (Clemenson 1992). In fishing communities, there were high levels of unemployment, dependence on welfare, or out-migration. For many places, fishing was no longer the economic base of their community (Sinclair 1992). Furthermore, the fishing industry and fishing communities were impacted by the implementation of the northern cod moratorium in July 1992 (Newfoundland Statistics Agency 1997). By 1994, there was no evidence that groundfish stocks were recovering. In fact, declines in groundfish stocks were now being identified in other areas of Atlantic Canada. This led to a moratorium on groundfisheries for other areas of Atlantic Canada and Quebec in 1994 (Newfoundland Statistics Agency 1997). With more than 40,000 workers affected, Human Resources Development Canada and the Department of Fisheries and Oceans developed the Atlantic Groundfish Strategy to provide income support and training (Newfoundland Statistics Agency 1997).

Some fishing towns have attempted to diversify their economies with tourism that has been facilitated by transportation improvements, such as new or updated ferry systems, and government policies for tourism development (Marshall 2001). Other fishing towns have attempted to diversify within the fishing sector by gathering niche products, such as periwinkles, clams, dulse, and seaweed that are harvested by hand. Such activities help to bridge the gap between the seasons or make up for poor harvest levels (Marshall 2001).

Fishing towns have also displayed changing characteristics over time. Between the world wars, men increasingly worked in processing in fishing communities. However, technology changes and labour shortages in World War II resulted in an increase in female employment in fish processing (MacDonald and Connelly 1989). After World War II, most fishers tended to be men and more women tended to be employed in processing plants (Sinclair 1992; MacDonald and Connelly 1989). Outside of processing, however, fishing towns have been characterized with limited job opportunities for women in sectors such as education, health, and finance (Marshall 2001). In smaller fishing centres, younger couples tend to be wage workers (Sinclair 1992). Fishing towns have been characterized by seasonal, part-time work (Sinclair 1992; MacDonald and Connelly 1989).

### *Forestry Towns*

Changes experienced by forestry towns have been driven by consolidation of the industry over time and the introduction of labour saving technology. Additional pressures affecting the demand of forest products are underpinned by energy costs, inflation, housing starts, and interest rates for mortgages. Before exploring these pressures, however, this section will outline the emergence of forestry towns.

During the pre-industrial era before the 1880s, sawmills and small forestry towns emerged that were constructed by forest companies (Williamson and Annamraju 1996; Barnes and Hayter 1992). From the 1880s, rapid growth occurred in the coastal regions (Barnes and Hayter 1992). Between 1880 and 1945, provincial governments began to create regulations for community development. Management of these places remained a responsibility of the company (Williamson and Annamraju 1996).

During the Fordist era of the 1950s and 1960s, lumber, plywood, and pulp production increased (Barnes and Hayter 1992). Consequently, the post-war period was marked with rapid growth in the number of forestry towns that emerged, such as those in the interior of British Columbia. Control of these towns was transferred from company control to the residents with a greater concern for the quality of life and stability of these places by developing services and implementing conservation measures to ensure a sufficient timber supply to support the town's industrial base (Williamson and Annamraju 1996).

However, the 1970s and 1980s was marked with downsizing and closures (Barnes and Hayter 1992). The plywood industry suffered problems from a declining large log supply and competition from lower-price particle boards (Barnes and Hayter 1992). Forestry towns also experienced problems in the 1970s when energy costs fueled inflation. Housing starts collapsed and demand for wood declined (Luloff 1990). Furthermore, there were demands for new products in new markets. Fluctuations in the demand for lumber and wood products, along with interest rates for home mortgages, contributed to high turnover amongst secondary sector workers in forest towns (Humphrey 1990).

Most notably, the 1980s were marked by technological changes towards computer-based production that reduced manufacturing employment and required a flexible labour force (Barnes and Hayter 1992). The number of jobs created per unit of production declined due to the installation of new labour saving technology in updated facilities (Williamson and Annamraju 1996). More specifically, while sawmill plants closed, others modernized with a large reduction of employment (Barnes and Hayter 1992). This



has led to the decline of a number of forestry dependent communities (Williamson and Annamraju 1996: 3).” At the same time, the forest sector is gravitating towards larger growth centres with a more diversified industrial base. Finally, timber supplies are becoming more strained (Williamson and Annamraju 1996).

Forestry towns display unique characteristics that set them apart from other resource towns. Humphrey (1990: 36) defines a timber-dependent town as one where “most workers in a community depend upon a forest products industry and its supporting services for employment, and the community is located in a remote place without alternative means of earning income.” Forestry towns also tend to have few local commercial or professional services, especially in smaller settings (Humphrey 1990). Forestry towns are export oriented (Williamson and Annamraju 1996; Humphrey 1990). Individuals employed in forestry have high incomes. In fact, Williamson and Annamraju (1996) note that forestry income exceeds the provincial average in all provinces. Furthermore, forestry income exceeds non-forestry base income in all provinces except in Alberta where high wages are paid to oil patch employees. Within the forest sector, employees of pulp and paper mills earn higher incomes (Parkins *et al.* 2003). Despite higher incomes, though, logging dependent regions tend to have higher rates of poverty than other regions closely associated with agriculture and tourism (Parkins *et al.* 2003).

However, Williamson and Annamraju (1996) also note that there are important distinctions between towns based on different forest sectors. The duration of employment for pulp mill workers can be longer than for sawmill workers due to the variability in the market and the relatively low shut-down and start up costs. Consequently, the sawmill industry requires a more flexible labour force than the pulp mill industry. Hence, sawmill towns are more transient than towns based on other types of forest processing, leading to more instability in these places.

Forestry towns also have different characteristics based on wood fibre and land ownership. For example, towns in British Columbia are still harvesting old growth timber, while towns in New Brunswick are harvesting second, third, and fourth crops of trees. Consequently, New Brunswick forests have lower growth rates, while there is higher value in B.C.’s forest industry (Parkins *et al.* 2003). Furthermore, while the provincial government in B.C. controls 95% of the land, control in New Brunswick is more divided between private woodlot owners, the provincial government, and large forestry firms (Parkins *et al.* 2003).

### *Mining Towns*

Mining towns have experienced tremendous change over the years. The 1880s-1914 represented a period of company dominance, with ad hoc and unplanned communities growing up around mines (Robson 1991: 28). Between 1918-1939, there was a greater concern for social issues, reflected in planned communities. The companies, however, still controlled many aspects of community life, and there was a growing consideration of government concerns and involvement. Consequently, numerous planned mega-projects emerged between 1945-1970 (Robson 1991). Between 1970-1991, however, Robson (1991) declared this period to be one of crisis management with the decline of towns like Pine Point and Lynn Lake. One important reason for this crisis period was the 1981-1982 recession that led to the closure of many mining communities, such as Schefferville, Quebec (Clemenson 1992). In discussing mining communities, Luloff (1990: 15) noted that “as the resource stock became depleted, or as the costs of mining became prohibitive, an exodus of migrants occurred.” In some mining towns, economic and social conditions had deteriorated by 1990 as incomes declined and poverty and unemployment rates increased (Nord and Luloff 1993). However, Clemenson (1992) notes that some small towns, such as Fraser Lake and Granisle, B.C., have become ‘dual dependent’ by dividing their employment between both mining and forestry sectors.

Mining towns may be characterized by the types of employment available in these communities. Previous research has defined a town as mining dependent if 20 percent or more of the total labour and proprietor income came from mining (Nord and Luloff 1993). Robinson (1962) identified two main labour force groups in mining towns. First, there are white collar or supervisory personnel such as managers, professionals, technicians, clerical workers, and civil servants. Second, there are industrial workers, such as miners, mill and smelter workers, oil drillers, as well as general labour and construction workers. Jobs in the business sector are limited, especially during the early stages when the trades and services are undeveloped (Robinson 1962). However, Nord and Luloff (1993) note that different types of mining towns use different technologies and, thus, require different labour pools. Most notably, open pit mining has developed new capital intensive mining technology that requires a larger proportion of professional and skilled jobs than other types of mines.

Mining towns have been characterized by a male-dominated labour force, particularly in non-traditional sectors associated with the mining industry (Peacock 1985). Mining towns also generally consist of male-dominated populations during the construction phases of the industry and town, followed by a generally young family oriented population with good incomes after the mines are in full operation (Halseth and Sullivan 2003). Despite higher incomes, some mining towns have had higher rates of poverty than agricultural or tourism regions (Parkins *et al.* 2003).

Finally, mining towns have been characterized by having limited housing options. In the post-World War II era, housing was used as an incentive to attract and retain employees and their families in remote mining towns in order to reduce labour turnover (Bradbury 1984; Riffel 1975). However, many mining towns are also company towns where the housing stock is owned by the company. There are few rental units available as most of the housing is owned by the company and is available to employees only (Goltz 1992; Bradbury 1984; Porteous 1976). For example, the initial lack of housing assistance and options were cited as problems with the planning of Tumbler Ridge. Housing was unavailable for non-mine employees (Gill n.d.). Furthermore, within this context, peaks and declines in housing demands parallel the development of the mining industry with high demand during construction and operations of the mine and declining demand during restructuring or closing of a mining town (Bradbury 1984).

### *Oil and Gas Towns*

The development of oil and gas towns is different from mining towns. In Canada, with the exception of the Turner Valley near Calgary, petroleum production spread from Edmonton after the late 1940s (Robinson 1989). Large reserves of gas were discovered in the 1950s (Robinson 1989). However, deeper natural gas fields were discovered during the 1980s that allowed the Prairies to export to the United States. Production has expanded to northeastern British Columbia and to places in Alberta such as Cold Lake, near Lloydminster, and Fort McMurray (Robinson 1989). However, the boom associated with the petroleum industry did not change settlement distribution patterns. Few centres were created to develop these resources. Most petroleum is shipped out in crude form to be processed in consuming centres. Furthermore, the management and servicing of these resources are located in large cities (Robinson 1989). While Kroetsch (1993) felt that Fort McMurray was only the first of a number of tar sand towns to be built, ongoing evidence suggests that oil and gas developments have aggressively adopted the fly-in / fly-out model of development. Even new oil and gas activity near Fort Nelson, BC, is being developed directly adjacent to rough airfields which can bring the crews in from urban areas.

Research on oil and gas towns is more limited. Robinson (1962) described the development of oil towns to include exploration, drilling and development, production, and maintenance. Consequently, unlike other resource towns, employment in the industry and demands for services are greatest during the early stages of development. As drilling activity declines and oil fields reach full development, employment based on oil field development declines. Employment reductions are experienced in areas including

technical services, equipment and supply firms, pipeline and drilling firms, etc. (Robinson 1962). Oil and gas towns are also characterized by their high wages (Williamson and Annamraju 1996). Matthiasson (1971) explored mobility patterns in Fort McMurray where, in the 1970s, more than half of his sample had less than high school education. Furthermore, more than half of his respondents had moved more than five times (Matthiasson 1971). Changing technology requirements now preclude these types of low educational entry opportunities. Coupled with the fact that oil and gas production requires few workers, and that maintenance (in addition to discovery and development) has adopted the fly in / fly out model, small towns in oil and gas territory do not have large shares of the population in the primary sector, rather they tend to support service activities for the crews that come and go from urban places.

### *Tourism Towns*

Several key factors are instrumental in exploring tourism or resort towns. Such factors may include accommodations, the diversity of the retail sector, the diversity of services, and age composition of the workforce and residents. In tourism towns, for example, a high proportion of residences have been noted to advertise accommodations for tourists (Jones 1933). Tourist towns are also distinguished from other resource towns by examining the residential to commercial area ratio. For example, Jones (1933) noted that the residential – commercial ratio in the mining town of Canmore was ten to one compared to 6.5 to one in Banff. These figures reflect businesses geared towards tourist travel and not just the permanent residents. Furthermore, Jones (1933) noted that Banff, as a tourist town, offered more specialized and varied commercial businesses compared to more general stores in mining towns. Hall and Page (1999) also note that tourism towns offer an increased variety of restaurants and entertainment facilities. These places, however, must confront challenges including the emergence of high local prices for goods and services, as well as high accommodation costs and even a shortage of accommodations (Hall and Page 1999).

Another way tourism towns may be identified is through the characteristics of the tourism workforce. The tourism workforce tends to be young; characterized by female, part-time employment; low levels of union membership; relatively low skilled work; low wages; mobile workforce and high turnover rates; and low levels of formal education (Gill 2000; Hall and Page 1999; Kassab *et al.* 1995). Furthermore, some service sector employment is seasonal or temporary (Gill 2000; Kassab *et al.* 1995). More recently, though, resort towns have attracted professional and skilled workers who find new employment opportunities in the resort context (Gill 2000). Resort towns have also been able to attract telecommuters as a result of changes in communication technology that have enabled this workforce to relocated to high-level amenity areas such as tourism towns (Gill 2000).

Tourism towns may have a younger oriented population in comparison with places (Gill 2000). However, as tourism towns develop, they may also attract a group of retirees. As tourism towns develop, the gender distribution becomes more evenly distributed (Gill 2000). Resort communities may also have seasonal residents who, along with second home residents, can bias census results (Halseth 1998; Gill and Everitt 1993).

### *Commuting Towns*

Commuter towns have been defined as places with people living in rural areas but who are really part of an urban system. These places exist because of their amenity and relative location, some of which exist near urban recreation centres (Everitt and Gill 1993). These commuting towns have a rural setting surrounded by agricultural land. They are also occupied by middle-class commuters to cities (Robinson 1990). Commuting villages or 'bedroom communities' may also consist of middle-class retirees from urban areas. Commuting villages also attract workers as a result of affordable housing. As some places are surrounded by agricultural land, they may also consist of farm labourers and local tradesmen

(Robinson 1990). Key characteristics include adjacency to urban centres and the availability of high quality, all-weather roads connecting the smaller bedroom towns to urban centres. Examples include Coaldale, Alberta, Carleton Place, Ontario, and Verchères, Quebec (Everitt and Gill 1993). As highlighted in the recent census, urban spillover growth in the corridor between Calgary and Edmonton is generating growth challenges in many small towns that now fall within urban commuting ‘sheds’.

### *Mixed Economy Towns*

Rural and small town places have been experiencing an accelerated pace of change and restructuring, particularly during the past ten to fifteen years. In particular, there have been changes to the local economic structures of these places stemming from globalization (Halseth 2004; Randall and Ironside 1996). Recessions, technological change, and restructuring of industries have forced towns to diversify in other resource sectors (Randall and Ironside 1996).

For example, after the mill in Chemainus closed in 1983, a new mill opened two years later with less than one-quarter of the original workforce (Barnes and Hayter 1992). The community responded by obtaining a provincial revitalization grant that was used to paint numerous murals depicting the town’s past (Barnes and Hayter 1992). Shortly after, there were plans to develop an artisan community that would provide enough activities to keep tourists in the community to develop a hospitality industry (Barnes and Hayter 1992).

Fraser Lake and Granisle, B.C. are other examples of small towns that have become ‘dual dependent’ by dividing their employment between both mining and forestry sectors (Clemenson 1992). Yellowknife has also been identified as a town with a mixed economy. Yellowknife was originally a mining town, but then government, service, and amenity jobs developed after the city was selected as the capital of the Northwest Territories in 1967 (Bone 1998).

### *Discussion*

This section has demonstrated two important facets of small towns. First, small towns represent a wide range of economic activity that has undergone rapid changes over the past few decades. Amongst many pressures experienced by small towns were the energy crisis of the 1970s and the recession of the 1980s. Mechanization and technology changes in plants have trimmed labour and have affected employment and population levels of some small towns. Transportation changes have also altered the relationships between rural and small town places and regional centres that have encouraged commuting for employment and shopping. In other cases, resources have been depleted. However, other small towns have diversified their economic base.

The second facet obtained from the literature is that small towns engaging in different economic activities also have different economic and demographic characteristics. Each of these places consists of a population with varying characteristics that range from aging farming towns to young family oriented populations in forestry and mining towns. It is important to acknowledge, however, that these demographic characteristics change over time as a community develops through different stages. Such changes will be explored in more detail in Phase Three of this project.

Other small towns are described as places with high wages, most notably forestry, mining, and oil and gas towns. Other places have higher dependencies on government transfers, such as agricultural and tourism towns. Some towns have a substantial number of seniors. Furthermore, while much of the literature indicates that small towns will have limited services to provide employment opportunities for women, tourism towns have a much higher ratio of service sector employment for women. Research also indicates that some places are marked by part-time, seasonal employment such as places focused upon

tourism and fishing. However, most places were associated with a particular economic sector by having a substantial proportion of their labour force in an industry. Such types of towns included agricultural towns, fishing towns, forestry towns, mining towns, and oil and gas towns. Even towns with mixed economies were defined as those with no dominant labour force sector. The notable exception was commuting towns that were defined by the proportion of their labour force commuting to another centre.

Consequently, previous literature highlights the diversity of rural and small town Canada. Some towns have become more specialized as a result of restructuring pressures while others have declined due to resource shortages or plant closures. In still other cases, small towns have diversified their economic base to provide a range of employment opportunities for its residents (Randall and Ironside 1996; Clemenson 1992). Chemanius, Kimberly, and Tumbler Ridge were resource dependent towns in British Columbia that have diversified their economic base with tourism (Halseth *et al.* 2003; Everitt and Gill 1993; Barnes and Hayter 1992). In the case of Chemanius, murals were used to promote economic growth during a period of radical downsizing at the local forest products mill. Tumbler Ridge, hit hard by the closure of two major coal mines, has been capitalizing on dinosaur finds to develop a museum and 'dino camps' for children. In Elliot Lake, Ontario, the Elliot Lake Retirement Living Organization was formed after closure of mining operations (Farkouh 1999). After receiving a provincial grant, this organization acquired many of the homes and marketed them to retirees that enabled Elliot Lake to make the transformation from a mining town to a retirement community. In Altona, Manitoba, both the industries and the companies within industrial sectors were diversifying (Penner and Friesen 1990). This traditionally agricultural community expanded manufacturing sectors as D.W. Frieson & Sons Ltd., a national printing company, added new equipment, including an automated book line for publishing. Loewen Manufacturing Co. Ltd. is a manufacturer of farming equipment parts and expanded its operations locally and its markets worldwide in North America, Australia, and Europe (Penner and Friesen 1990). These examples not only point out options for diversification, but also that small towns have the capacity to change their economic base. Therefore, places that once were known as agricultural centres, for example, may now be driven by other economic activities in addition to continued agricultural production. However, after exploring previous literature, it has become apparent that different authors have used different indicators for exploring specific issues of interest to them.

### **Categorizing Small Places by Economic Function - Clustering Approaches**

Clustering small towns according to economic function provides a foundation to track the development of these places. In the past, rural areas were largely associated with agricultural development (Effland 2000). Research, though, changed these assumptions and explored rural and small town places associated with a range of economic sectors. More recently, towns associated with specific economic functions have diversified their economies and are no longer dependent upon a single sector. To track the development of small towns, it is important to first identify places according to economic functions. This is because economic sectors may be affected by different pressures that ultimately impact the economic and social well-being of residents, and hence, the retention of the population during times of social and economic restructuring. This section will explore methodologies for clustering small towns according to economic functions.

The key to most clustering approaches has been to determine the specialization of a small town's economy. Randall and Ironside (1996: 24) explored resource specialization by grouping small towns into six categories including places dependent upon forestry, wood processing, pulp and paper processing, fish and food processing, mining, oil and gas, and primary metals processing. Randall and Ironside (1996) explored specialization through employment indicators, but also described resource-based towns as export oriented.

Beshiri (2001a) examines primary sector employment for rural metro-adjacent, rural non-metro adjacent regions, and rural northern regions. Primary sector employment categories include agriculture, fishing and trapping, logging, and mining, oil / gas, and quarrying. The intent of Beshiri's paper, however, was to focus on primary sector industries, and therefore, was not intended to include processing or manufacturing sectors associated with primary sector resources. Instead, Beshiri (2001b) examined the manufacturing sector in a different paper. Beshiri (2001b) found that manufacturing jobs in rural and small town places are concentrated in traditional manufacturing sectors that process primary resources, such as fish, wood, pulp and paper, and minerals.

Ziebarth (2000) identifies a range of small towns such as agricultural processing plants, tourism, and new prison towns by examining economic development strategies, labour force characteristics, and housing needs. Cramer *et al.* (1993) identify small places based upon resource-based industries such as agriculture, forest products, ranching, recreation, tourism, mining, and energy development. After examining employment by industry, Kassab *et al.* (1995) grouped workers into traditional higher-wage industries such as high-wage manufacturing, mining, and government; agriculture, forestry, fisheries, construction and low-wage manufacturing; consumer services; and higher-wage service industries. Machlis *et al.* (1990) review a classification scheme based on four resource systems including forestry, tourism, mining, and agriculture. In this case, indicators used to identify the specialization of the economy included production and harvest levels, market value of products, and employment. Effland (2000) demonstrated the diversity of rural places in the United States by exploring employment by industry and occupation. By exploring the proportion of residents employed in different sectors, such as agriculture, mining, manufacturing, construction, finance, insurance, and real estate, and transportation and public utilities, Effland (2000) worked to dismiss the myth that rural places are mostly associated with agricultural development.

The Interdepartmental Committee on Rural and Remote Canada (1995) explored demographic characteristics of rural and small town places by examining population change and population age structure. Employment characteristics of small towns were examined by looking at employment and unemployment rates, employment by industry, employment by age, and employment by primary industries. Indicators used by the OECD (1996) to cluster small towns within or between sectors such as agriculture, forestry, mining, fishing, manufacturing, and services, included labour force, income, employment, sectoral shares, productivity, and investment.

Robinson (1990) reviews a clustering approach to search for agricultural towns. Fifteen indicators were used in this clustering approach. Population characteristics were determined by the total population, population density, the percentage of rural population, and the percentage of population economically active in agriculture (Robinson 1990). Land use was explored by examining the percentage of arable land, the percentage of permanent (tree) crops, the percentage of pasture, the percentage of forest, and the percentage of other land uses (Robinson 1990). The remaining indicators focused specifically on classifying the degree of influence that agriculture had on these rural places. These included tractors / head of population, fertilizer consumption / head of population, GDP per capita, agriculture as a percentage of GDP, food and beverage as percentage of imports, and food and beverages as percentage of exports (Robinson 1990). From this, correlations are explored between agriculture's proportional contribution to gross domestic product and agricultural employment as a proportion of all employment (Robinson 1990).

Everitt and Gill (1993) categorize small towns according to their function (Table 1). First, some small towns are grouped to exist because of their amenities and their relative location to other places that allow them to function either as dormitory towns, regional service centres, or even near-urban recreation centres. Second, small towns are grouped into various resource-based categories where the local economies are based on either non-renewable (mining) or renewable industries (forestry, fishing,

tourism). The important distinction provided is that while service centres are located in agriculturally productive areas, resource towns are frequently isolated (Everitt and Gill 1993).

Table 1: Functional Classification of Small Towns - Everitt and Gill

<i>Location - and amenity-dependent</i>	<i>Examples</i>
Regional service centres	Ville Marie, Quebec, Dauphin, Manitoba, Rosetown, Saskatchewan
Dormitory towns	Verchères, Quebec, Carleton Place, Ontario, Airdrie, Alberta
Specialized manufacturing	Bridgetown, Nova Scotia, Taber, Alberta, Brooks, Alberta
Near-urban recreation	Bracebridge, Ontario, Collingwood, Ontario, Grand Beach, Manitoba
Retirement centres	Hamiota, Manitoba, Kelowna, B.C.**
Specialty retailing, life-style, and culture	Acton, Ontario, Elora, Ontario, Ganges, B.C.
<i>Resource-dependent</i>	
Non-renewable	Thompson, Manitoba, Tumbler Ridge, B.C.
Renewable - fishing	St. George's, Newfoundland, Lunenburg, Nova Scotia
Renewable - forestry	Cornerbrook, Newfoundland, Hinton, Alberta
Renewable - tourism	Jasper, Alberta, Penticton, B.C.
"Ghost" towns	Bannerman, Manitoba, Moore Park, Manitoba, Sheridan, Manitoba, Bevan, B.C.

Source: (Everitt and Gill 1993: 255). \*\*Kelowna has grown rapidly over the past ten years and is now a CMA.

It is important to note that there are no 'economic' sectors with Statistics Canada data to label places specifically as retirement centres, rather these types of places may be indicated by employment in service sectors, transfer payments, and age structure. Dormitory towns may be indicated by examining commuting levels.

On behalf of the U.S. Department of Agriculture, Economic Research Service, Cook and Mizer (1994) classify non-metro counties into farming-dependent counties, mining-dependent counties, manufacturing-dependent counties, government-dependent counties, services-dependent counties, and non-specialized counties (Table 2). The economic classification of these non-metro counties was based upon the percentage of the labour force employed within a particular sector. From this foundation, other descriptive indicators were used to further describe non-metro counties grouped by economic sector. Additional descriptive indicators included population characteristics, settlement patterns, income and other employment characteristics, and education levels (Cook and Mizer 1994). The population structure was examined by exploring variables including population numbers, population change, population increase and decrease, and population density. Economic structure of counties was explored by looking at per capita income, family income, earnings, change in earnings, employment and unemployment rates, job growth, total earnings, sector earnings, industrial activity, and worker population ratio (Cook and Mizer 1994).

Table 2: ERS Typology for Rural Diversity I

Cluster Category	Characteristics
Farming dependent counties	remotely located, population decline through out-migration, youth out-migration, high ratio of dependent population to working adults, and economic base declined, job losses.
Mining dependent counties	specialized economies in coal, gas and oil, and metals, population decline through out-migration, loss of mining jobs.
Manufacturing dependent counties	urban orientation, metro adjacent, densely populated, economies grew, manufacturing jobs increased most in non-urban areas.
Government dependent counties	specialized in government activities, population growth, growth in jobs, levels of economic well-being lower.
Services-dependent counties	growth in service sector jobs, service sector earnings have grown, includes recreation centres, consumer centres, and trade and service centres.
Non-specialized counties	did not qualify for economic specialization, experienced job growth, include places with small economic bases and high poverty as well as places with strong economies.

Source: Cook and Mizer 1994.

As such farming dependent counties in the United States were remotely located. However, U.S. farming counties were also associated with out-migration, especially with youth, job losses, a declining economic base, and a high ratio of a dependent population to working adults (Cook and Mizer 1994). Mining dependent counties were identified as those with economies dependent upon coal, oil and gas, and metals. These places also experienced out-migration and loss of mining jobs. Manufacturing counties in the U.S. tended to be urban oriented and adjacent to metropolitan areas. Manufacturing counties were also experiencing a growing economy. While government dependent counties experienced a growth in jobs, these counties had lower levels of economic well-being. Recreation centres and service centres have been growing in both the number of jobs provided and in the income earned in service-dependent counties. Finally, this typology identified non-specialized counties that did not have any economic specialization. Of interest, this typology did not identify any counties that were specifically dependent upon the forest or fishing sectors. Instead, these economic activities were most likely associated with manufacturing activities.

In addition to classifying counties by economic type, Cook and Mizer (1994) classified counties by policy type to assist rural policy making. Counties are classified into five policy types including retirement destination counties, federal land counties, commuting counties, persistent poverty counties, and transfer dependent counties (Cook and Mizer 1994) (Table 3). Retirement-destination counties had a greater proportion of seniors and offered services associated with recreation and resort towns. Federal land counties had land dominated by federal ownership. These areas were sparsely populated. Growth in service and government related jobs was speculated to largely reflect recreational and land management needs. Commuting counties tended to consist of smaller land areas and were adjacent to metropolitan areas to facilitate the flow of commuters between places. Persistent poverty counties had high rates of poverty that was indicated by low incomes, unemployment rates, low levels of education, and a less urban oriented population. Finally, transfer-dependent counties consisted of a greater proportion of residents drawing from social security, unemployment insurance, or government pensions. These counties tended to be remote and sparsely populated, consist of poverty characteristics, and may also contain a large share of seniors. As such, Cook and Mizer (1994) noted that some counties fall into more than one category. For example, some counties could be both designated as retirement-destination counties and as transfer-dependent counties. Other counties could be identified as both persistent poverty and transfer-dependent. This policy approach for clustering small towns is similar to the 'functions' approach applied by Everitt and Gill (1993) who also identified commuting and retirement centres, as well as service centres.



Table 3: ERS Typology for Rural Diversity II

Cluster Category	Characteristics
Retirement-destination counties	%15 or greater increase in population aged 60+, also serve as recreation or resort sites, also attract younger populations, population growth, high growth in earnings and jobs.
Federal lands counties	lands dominated by federal ownership, larger land areas, sparsely populated, population growth, growth in service / government jobs reflecting recreational and land management needs.
Commuting counties	workers commuting to jobs in other counties, counties have smaller land areas, metro-adjacent.
Persistent poverty counties	have poverty rates of 20% or higher, smaller, less urban population, disproportionate at risk people - minorities, female-headed households, high school drop outs, and disabled people, low incomes, and unemployment.
Transfers-dependent counties	government transfer payments - social security, unemployment insurance, medicare, medicaid, food stamps, government pensions, and welfare benefits, remote and sparsely populated, poverty characteristics, and include a large share of seniors.

Source: Cook and Mizer 1994.

Hawkins (1995) clustered places across Canada into seven typology categories according to a range of characteristics by using a multivariate analysis at the Statistics Canada census division level. Hawkins (1995) explored demographic characteristics of small towns in Canada by examining age structure, population change, and even migration by examining the percent of households who occupied same dwelling five years ago. She was also able to explore the attractiveness of a particular area to youth or retirees. To examine youth, Hawkins subtracted residents between the ages of 25-34 in 1991 from those aged 15-24 in 1981. To examine retirees, residents over 65 years of age in 1991 were subtracted from the population over 55 years of age in 1981. Economic indicators included overall employment rates, including employment rates by sex, unemployment rates, including changes in unemployment rates, as well as a breakdown of the labour force according to different sectors. Furthermore, Hawkins (1995) used such indicators as percent of males and females with post secondary education. However, Hawkins (1995) acknowledges that services and service provision are the main data gaps. For example, while it is possible to identify teachers and doctors per capita based on census occupation data, other services are more difficult to identify.

Table 4: Hawkin's Typology of Small Towns Across Canada

Cluster Category	Characteristics
Primary settlements	Large urban population, high incomes, high education levels, skilled workforce, service-based economy
Urban Frontier – Less extreme than primary settlements	Large urban population, high incomes, high education levels, skilled workforce, service-based economy
Rural enclave	Declining sectors (manufacturing, forestry, fishing), low income levels, high percentage of families below low income cut off, high government transfer income dependency, low education levels, good demographic structure, portion of young population
Rural nirvana	High levels of commuting, high income levels, high skills levels, economic and social integration with nearby cities
Agro-rural	Rapid population decline, youth out-migration, moderate incomes
Resourced Areas	Dominant sectors (mining and oil), young families, good and stable income, high levels of post secondary education
Native North	Young population structure, dominant sector, secondary sector, low levels of post secondary education, low to moderate – but rising incomes

Source: Hawkins 1995.

From these indicators, Hawkins (1995) clustered small town areas into seven categories (Table 4). *Primary settlements* are CDs that contain major metropolitan areas. Primary settlements contain a large urban population, high incomes, high education levels, a skilled workforce, and a service-based economy. CDs categorized as *urban frontiers* contain a large city, such as Quebec City. They consist of similar but less extreme characteristics that are found in primary settlements. *Rural enclaves* contain CDs with limited economic opportunities, declining sectoral employment, low income levels, a high percentage of families below the low income cut off level, and a high rate of dependency on government transfer incomes. These CDs also consist of below average education levels, although youth out-migration appears to be limited. *Rural Nirvana* CDs experience the out-migration of urban residents into the countryside. There are high skill and income levels, and a commuting labour force. *Agro-rural* areas are those marked by rapid population decline, youth out-migration, moderate incomes, as well as a dependence on government services for employment and transfer payments for income. *Resourced areas* are dominated by the presence of oil and mining with young family structures, good incomes, and a high proportion of the population with post-secondary education. Finally, CDs dominated by a young population structure, mining and government employment, low levels of education, and low to moderate incomes are categorized as the *Native North*. A limitation to this clustering approach was the use of Census Divisions (CDs) that mask variations at a smaller scale (Hawkins 1995).

Table 5: Range of Approaches for Clustering Small Towns

	← Range of Approaches →		
Employment / Income	Socio-economic Characteristics	Function	Policy
(Many)	(Hawkins)	(Everitt / Gill)	(Cook / Mizer)

Few studies were ‘time series’ studies to look at changes over time. Furthermore, researchers tended to apply indicators to explore specific issues. For example, many researchers used employment and income indicators to explore dependencies of a particular place upon a resource sector. However, this approach alone could not identify towns that serve other functions such as retirement centres and commuting centres. Similarly, Hawkins (1995) explore socio-economic characteristics to group small towns into different categories, but also does not account for emerging centres that serve a retirement population. Everitt and Gill (1993) classified non-resource based towns, such as retirement and commuting centres, by looking at amenities, distance to urban centres, and age structure. Initially, Cook and Mizer (1994) used employment indicators to cluster non-metro counties. But then, they examined economic indicators and socio-economic descriptors to cluster non-metro counties for policies purposes. This allowed them to explore other types of towns that have important implications for policy development, such as retirement or poverty centres, which are not solely determined by examining employment by sector. However, Cook and Mizer examined these characteristics at the county level, which could mask individual characteristics of small towns. A longitudinal approach is needed to explore changes in rural and small towns over time at the local and regional level.

### Discussion of Indicators of Characteristics of Small Towns

The previous section has demonstrated a wide range of clustering approaches for rural and small town places. While some common indicators have emerged, these approaches identify a range of characteristics that have not been consistently examined to identify places according to their economic

function. Moreover, there have been a range of methods applied to examine these characteristics. Clearly, the most common indicators used included employment and income.

### *Employment Indicators*

Employment indicators allowed previous research to characterize a small town according to its dependence or specialization in a given economic sector or industry for employment (Randall and Ironside 1996; Cramer *et al.* 1993; Everitt and Gill 1993; Ehrensaft and Beeman 1992; Gill and Smith 1985; Himelfarb 1976). Classification of places ranges from the proportion of the community labour force in standard industrial sectors to more sophisticated measures of industrial specialization and diversification (Randall and Ironside 1996; Hawkins 1995). For example, one method to determine the specialization of a town included “comparing the occupational or industrial characteristics of local workers to the same characteristics of the statistical standard such as a region or nation (Humphrey 1990: 36).”

Other places were identified as resource dependent if “employment in the resource sector with the greatest number of employees exceeded employment in any other two-digit standard industrial sector or employment in a combination of all the resource sectors exceeded employment in the combination of health and education services” (Randall and Ironside 1996: 24). Machlis *et al.* (1990) found that resource industries in timber and mining employed a high percentage of the local population compared to the provincial average.

Some studies have used indicators to explore resource dependency of small towns according to a particular resource sector. For example, Williamson and Annamraju (1996) used an economic base methodology to examine census subdivisions (CSDs) in the 1991 Canada Census to determine the size of the economic base of each CSD, as well as the percentage of the economic base accounted for by the forest products sector. After examining 6,006 CSDs, Williamson and Annamraju (1996) found 337 CSDs in Canada where the forest products sector accounts for at least 50% of the economic base of the community (Table 5).

Table 6: Degree of Reliance of Rural Communities on the Forest Products Sector by Province, 1991

Province	Total Population	Slight or no reliance on forestry <sup>1</sup>	Moderate reliance on forestry <sup>2</sup>		Heave reliance on forestry <sup>3</sup>	
		% of pop.	% of pop.	No. of comm.	% of pop.	No. of comm.
BC	3,282,061	30.9	54.7	180	14.4	89
Alta.	2,545,553	93.0	6.3	50	0.7	3
Sask.	988,928	92.2	7.2	39	0.6	6
Man.	1,091,942	95.5	3.5	21	1.0	5
Ont.	10,084,885	92.2	6.6	177	1.2	55
Que.	6,895,963	74.5	22.7	565	2.8	127
NB	723,900	45.2	45.4	128	9.4	40
NS	899,942	74.2	22.8	31	3.0	7
Nfld.	568,474	77.1	22.1	85	0.8	35
Canada	27,296,852	78.4	18.2	1,294	3.4	337

<sup>1</sup> Communities with less than 10% of their economic base in forestry. <sup>2</sup> Communities with 10-49% of their economic base in forestry. <sup>3</sup> Communities with 50% and greater of their economic base in forestry. Source: (Williamson and Annamraju 1996: 17).

Williamson and Annamraju (1996) also examined the distribution of communities that are heavily reliant on the forest sector by examining the size of small towns. While most small towns dependent on the forest sector were located in British Columbia, Quebec, Ontario, and New Brunswick, British Columbia had a greater proportion of forest dependent towns with a population greater than 4,999 people. Thus, this approach was able to explore issues of dependency and town size (Table 6).

Table 7: Distribution of Communities Heavily Reliant on the Forest Products Sector by Size of Community, 1991.

Province	Population Range of Community			Total
	less than 1,000	1,000 - 4,999	greater than 4,999	
	Number of communities			
Nfld.	4	1	-	5
NS	-	6	1	-
NB	8	31	-	40
Que.	78	43	6	127
Ont.	22	25	8	55
Man.	2	2	1	5
Sask.	4	2	-	6
Alta.	-	1	2	3
B.C.	26	33	30	89
Total - Canada	144	144	49	337

Source: (Williamson and Annamraju 1996: 18).

Beshiri (2001a) used the location quotient to compare employment concentration of a sector in a given location to the industry's employment concentration in a larger context, such as the province or country. Employment concentration is defined as the "percent of the workforce employed in a given sector (Beshiri 2001a: 3)." The location quotient for primary employment in RST areas is equal to the [number of RST individuals employed in the primary sector / number of RST individuals employed in all sectors] divided by [total number of individuals employed in the primary sector / total number of individuals employed in all sectors] times 100 (Beshiri 2001a: 3).

Table 8: Location Quotients of Relative Intensity of Employment by Industry in Rural and Small Town Areas Compared to the Province

Industry	Canada	Nfld	PEI	NS	NB	Que	Ont.	Man.	Sask	Alta	BC
Total Primary	342	167	198	195	183	382	422	309	209	255	288
Agriculture	389	109	183	192	192	408	472	321	221	338	244
Fishing and trapping	405	209	22	242	204	na	0	na	na	na	0
Logging	342	205	na	207	189	407	477	291	219	214	354
Mining, oil, and natural gas	171	38	na	85	145	167	194	221	120	90	354
Manufacturing	98	137	119	151	134	121	96	74	67	77	109
Traditional	127	147	131	163	142	151	113	74	69	82	124
Complex	61	89	44	107	57	65	74	53	40	4	13
Construction (excluding related services)	117	125	123	111	118	122	136	116	87	99	113
Transportation and storage	110	100	114	99	101	116	127	90	92	102	90
Communications and utilities	74	75	61	74	61	55	107	75	48	63	61
Trade (wholesale and retail)	91	97	83	96	90	91	96	85	86	86	85
Finance, insurance, and real estate	58	50	69	66	75	68	52	62	72	61	61
Services (sub-total)	84	86	78	84	89	79	85	80	77	86	95
Services related to primary industries	202	128	129	137	137	185	223	224	156	164	205
Services related to construction industries	25	n.a.	na	na	na	na	0	na	na	0	0
Business services	42	43	50	53	52	39	45	36	47	40	59
Educational services	90	98	85	90	100	80	84	89	83	90	108
Health and social services	94	81	84	89	96	87	104	89	84	89	90
Accommodation, food & beverage services	97	90	74	89	90	104	100	79	76	96	116
Other services	88	96	92	95	91	92	86	78	72	88	94
Public Administration	80	79	60	66	79	63	86	82	63	89	97
Federal and Prov. government	61	82	60	59	86	35	56	74	53	85	78
Local government	90	77	62	73	77	74	105	85	67	90	106
Total RST	100	100	100	100	100	100	100	100	100	100	100

Source: Bollman, R., R. Beshiri, and A. de Champlain. 2003. The Rural and Small Town Labour Market. In: The New Countryside: Geographic Perspectives on Rural Change, edited by K. Beesley, H. Millward, B. Ilbery, and L. Harrington, 214-239. Brandon: Brandon University.

A location quotient higher than 100 indicates a high employment concentration in rural and small town places compared to the overall economy (Table 8). This also indicates that such places are dependent and specialized in a particular industrial sector, which indicates that it is an export activity (Beshiri 2001a).

Other approaches used various methods to explore diversification of small town economies. On the basis of the percent of the labour force in a specific industry, Ehrensaft and Beeman (1992) note that few nonmetro census divisions (CDs) have dual specialization. Instead, most of these areas are dependent upon one sector. Examples of small towns that have dual specialization include Fraser Lake and Granisle, B.C., which have divided their employment between mining and forestry sectors (Clemenson 1992).

Another descriptor of rural and small town places examined was employment rates. Many people are attracted to resource towns for employment opportunities (Robinson 1962). In the past, some of these small towns have shown low unemployment rates. This may be due to company housing policies where individuals that are no longer employed with the company are not eligible for company housing. With limited housing options, some unemployed individuals may have to leave town. Hawkins (1995) also cautions that low unemployment rates may not always indicate that an economy is doing well. Instead, those without jobs may move to places where they feel they have a better chance of obtaining employment. However, some resource-based communities have been characterized by higher unemployment and seasonal fluctuations (Everitt and Gill 1993). Consequently, rural and small town places receive more transfers partly due to these higher unemployment rates (Rupnik *et al.* 2001).

Previous research also indicates that it is important not just to examine employment by industry or occupation, but also to examine the relationship between employment by industry and descriptors such as gender. Randall and Ironside (1996: 21) note that employment in resource-dependent communities is male-dominated. There are limited employment opportunities in resource towns, particularly in the resource sector (Reed n.d.; Gibson-Graham 1996; Everitt and Gill 1993; Himelfarb 1976; Porteous 1976; Riffel 1975). Hawkins (1995) observed that that fact low female employment rates are mirrored by high rates of unemployment suggests that there is a lack of employment opportunities in these places. In the resource industry, women have traditionally been excluded from all work except office duties (Peacock 1985; Lucas 1971). As noted earlier, women search for employment in the service sector where they find lower wages (Randall and Ironside 1996). These jobs tend to be part-time and non-unionized (Gibson-Graham 1996; Krahn and Gartrell 1981). However, female participation in core mining and construction industries has been increasing slightly (Krahn and Gartrell 1981).

Reed (n.d.) cautions that census definitions have not capture the range and type of female participation in resource sectors. For example, women Reed identified to be working in administration, as well as technicians, foresters, and planners at the Ministry of Forests District Office were not classified as forestry jobs by census definitions (Reed n.d.). Another challenge identified in examining employment as a variable is that categories of employment have changed over time. Furthermore, while trades have been an important occupation, particularly in resource towns, skilled occupation variables have not always included trades and professional employment (Hawkins 1995). It is also important to determine whether the labour force and employment data refer to 'place of residence' or 'place of work' (OECD 1994).

The timing of data collection for the Canada Census also poses limitations for interpreting employment by industry or occupation. For example, certain forestry workers, such as loggers, may be unemployed during the spring breakup period as census data is collected (Stamm 2004). Furthermore, since the census is conducted in early June, the groundfish season has not begun, which may exclude many inshore, part-time fishermen, whose main employment at other times may not be fishing (Sinclair 1992). Therefore, the census data may not accurately reflect the number of people dependent upon a particular resource sector. Furthermore, Sinclair (1992) found discrepancies surrounding employment in the fishing industry after comparing data from Statistics Canada, the Department of Fisheries and Oceans and the Task Force

on Atlantic Fisheries. While Statistics Canada data was deemed to be the most reliable, it was also felt that it offered the highest estimation of fishing occupations. It is important to acknowledge that census data will be outdated after it is collected. A town can experience numerous changes shortly after the collection of data, as well as between census periods, such as the loss of government service jobs or restructuring of industries such as forestry, agriculture, or tourism (Stamm 2004). Consequently, it is important to pursue a longitudinal approach for examining places.

Table 9 shows a comparison of industry classification used by Statistics Canada in recent years. The move to adopt the NAICS (1997) for 2001 Census data results in a significant reorganization of employment categorizations. For example, under the SIC, each of the major primary sector industries were reported as separate categories, but under the NAICS the renewable sectors are clustered into one category, while the non-renewables are clustered in another. Also of note is that there are more industry categories used in the NAICS scheme, to reflect the expanding diversity of the economy.

Table 9: Comparison of SIC and NAICS Classification Schemes Used by Statistics Canada for Employment

2001 Census 1997 North American Industry Classification System (NAICS)	1996 Census 1980 Standard Industrial Classification System (SIC)
11 Agriculture, forestry, fishing, and hunting	A Agricultural and related service industries
21 Mining and oil and gas extraction	B Fishing and trapping industries
22 Utilities	C Logging and forestry industries
23 Construction	D Mining (including milling), quarrying and oil well industries
31-33 Manufacturing	E Manufacturing industries
41 Wholesale trade	F Construction industries
44-45 Retail trade	G Transportation and storage industries
48-49 Transportation and warehousing	H Communication and other utility industries
51 Information and cultural industries	I Wholesale trade industries
52 Finance and insurance	J Retail trade industries
53 Real estate and rental and leasing	K Finance and insurance industries
54 Professional, scientific and technical services	L Real estate operator and insurance agent industries
55 Management of companies and enterprises	M Business service industries
56 Administrative and support, waste management and remediation services	N Government service industries
61 Educational services	O Educational service industries
62 Health care and social assistance	P Health and social service industries
71 Arts, entertainment and recreation	Q Accommodation, food and beverage service industries
72 Accommodation and food services	R Other service industries
81 Other services (except public administration)	
91 Public administration	

Source: Statistics Canada, 2004.

### *Income Indicators*

Income indicators have been an important variable to examine different community characteristics across different economic sectors. Income indicators have also been able to provide clues about other characteristics. For example, higher incomes have been associated with jobs that frequently require higher levels of education (Kassab *et al.* 1995).

Higher incomes in resource towns are thought to be motivating factors for people to move and stay in these places (Iverson and Maguire 2000; Williamson and Annamraju 1996; Krahn and Gartrell 1981;

Himelfarb 1976; Riffel 1975; Robinson 1962). However, not all small towns are characterized by high incomes. Previous research noted that higher incomes tended to be associated with jobs in the oil and gas industry, as well as the forest industry. Towns with a high percentage of service sector employment, such as tourism towns, tend to have lower incomes (Hall and Page 1999). However, Kassab *et al.* (1995) indicated that the gap between incomes earned in resource sectors and service sectors may be closing due to restructuring processes. As mechanization occurs, middle-waged jobs that required skilled labour are deskilled and may be replaced with lower-paying jobs in resource sectors depending on the skill level required to operate the new technology. At the same time, wages in the service sector have been increasing. If this is the case, then income may become a less useful indicator to cluster communities.

Examining transfer payments to rural and small town places may be important to identify characteristics of small towns with high unemployment rates, a higher proportion of children, or even a higher proportion of retirees receiving Canada and Quebec Pension Plan benefits (Rupnik *et al.* 2001). Consequently, it may be expected that a small town with high transfer payments and an aging population, may be classified as a retirement centre. However, Hawkins (1995) expects that elderly in settlements attractive to retiring couples will have higher incomes than elderly people in settlements suffering population decline.

Discrepancies have been found between the income earned by men and women, particularly in resource dependent towns. High incomes are mostly associated with jobs held mostly by men in the resource industry. Women are more likely to find employment in the secondary labour market in the service sector where they find lower wages (Randall and Ironside 1996: 23). However, while many clustering approaches have examined employment and gender, they have not examined income and gender relationships.

### *Industry Indicators*

Resource-dependent communities have been the source of extraction of exports, such as manufactured products made from lumber processing, pulp and paper processing, and fish processing (Randall and Ironside 1996; Williamson and Annamraju 1996; Barnes and Hayter 1992; Bradbury 1988). In addition to exports, other industrial indicators include production levels and commodity prices (Machlis *et al.* 1990). Unfortunately, territorially disaggregated production data is not good for many countries (OECD 1994).

Small towns, especially those dependent upon a resource sector, have been influenced by commodity prices (Himelfarb 1976). Robinson (1962) established the effects commodity prices can have on a local economy as the Soviet Union reportedly flooded world markets with aluminum, generating lower prices than Alcan. This posed difficulties for Kitimat, B.C. Data on commodity prices, however, may be difficult and complex to obtain and interpret. Data for commodity prices, production, and harvesting levels, is useful to explore dependence of towns on various resource sectors. But it is important to keep in mind that these indicators are not directly useful for exploring new types of small towns, such as retirement towns, tourism towns, or commuting towns. Furthermore, while industry indicators are useful for tracking pressures on a particular community over time, it is strongly felt that identifying towns by economic sector can be accomplished by examining other indicators, such as those associated with employment, income, or commuting.

### *Other Indicators*

Some clustering approaches have used indicators associated with specific resource sectors. Such examples included the number of tractors per population, the consumption of fertilizer per population, and harvesting levels in the forest and agricultural sectors. The proportion of land designated for a specific resource use has also been used.

But traditional economic indicators may no longer be sufficient to cluster small towns. In the past employment and income indicators were used to cluster small towns by resource type. New community types have been emerging, most notably retirement towns and commuting towns (Effland 2000; Cook and Mizer 1994; Everitt and Gill 1993). Employment and income alone, though, cannot identify these community places. Instead, additional indicators are required, such as transfer payments, age structure, worker-population ratios, and commuting levels between places.

### *Data Availability Issues*

One of the challenges that researchers and analysts face is the access to and use of appropriate data to carry out an exercise involving the classification of communities by economic activity, and changes in economic activity over time. The Census is the most reliable and comprehensible data available, in terms of its relative consistency from one census period to the next, in terms of its consistency from place to place, and in terms of its availability at the smallest of geographic places. Almost every other type of data collected nationally (such as the monthly labour force survey, or special studies on population health) is not available at the micro level of small towns or settlements less than 10,000, and the data may not necessarily be available consistently over a period of time in terms of when the surveys or studies are carried out, and the definitions used. For data collected by provinces, there are problems with comparability from one province to the next in terms of what they collect, what is and is not available, and how they define each variable or piece of data. For data collected at the municipal level, such as property taxes or property assessment values, the data is typically not available from one source for all municipalities. There may also be limitations based on the definitions applied to specific types of data, and the availability of the data in terms of consistency in collection from one place to the next.

### *Geographic Unit of Analysis*

Most of these clustering approaches, though, have focused upon the census division or county level. By examining regional data instead of more localized data, findings may mask individual community characteristics. Regional data may also hide the extent of commuting that may occur between places within a particular census division. Regional data may also indicate that a region, overall, is diversified, while the communities within the region are specialized as different resource towns, such as forestry or fish processing. Approaches have not comprehensively examined data sets to look at both local and regional contexts, as well as the influence of distance and isolation through metropolitan influences over time. A longitudinal approach is also lacking that would help decision makers project local needs, such as housing demands. Many clustering approaches have only examined census data over two census periods. This is not long enough to track changes in community development.



## Conclusion

This literature review has demonstrated the diversity of rural and small town places across Canada. Small places are characterized by different demographics, employment characteristics, land-use, geographic size, and location. Therefore, it is important to keep in mind that each of these small localities may face different challenges that will impact the types of services needed and their ability to meet those needs. Within this context, however, Randall and Ironside (1996: 21) make an important distinction that while individual communities within a region are often highly specialized in one sector, the regions, representing many places, are macro-diversified and depend on a range of resources and manufacturing sectors, such as agriculture, forestry, mining, fishing, government, and manufacturing. Some studies have examined this larger regional context by using the Census Division (CD) as the level of geographic inquiry (Alasia 2004; Hawkins 1995). This current study is restricted to the classification of small places, *within* these larger regional places.

### *Classifying Communities into Economic Clusters*

The variables for classifying different types of communities identified provide a foundation for a longitudinal approach. This clustering approach for small places should focus on the economic activity of any given community - an approach used in many other studies, noted in earlier sections of this report. Appendix A (Table 10) provides a list of the labour force activity (by industry type) and age related variables that will be applied to cluster small places across Canada. Exploring employment by industry provides a measure of the population dependent upon a particular economic sector. Age structure assists in the identification of retirement centres.

Within this context, there are some limitations. It is important to acknowledge there will be variations of towns classified by economic types. For example, some towns will have high employment levels in forestry, while other towns will have high employment levels in manufacturing industries associated with forestry. Intuitively, these would both be classified as forestry towns; however, the former would likely be classified as a forestry town, while the other, a manufacturing town, given the use of employment by industry variable. Furthermore, some mining towns will consist of jobs requiring low skill levels, while other mining towns with open pit mining may require higher skilled jobs and professional workers. Both would be classified as mining towns, but they would have very different social and economic characteristics. There are also limitations in the extent in which the data can depict the number of jobs dependent upon a particular sector. As noted by Reed (n.d.), for example, jobs that are influenced by the forest industry, such as administrators, foresters, planners, and technicians, were not designated as forestry jobs even though they were jobs at the Ministry of Forests Office.

Within this context, the literature is not consistent in its treatment of defining what percent of the labour force employed in a given sector should be used as a threshold or as a cutoff for determining “concentration” or to result in the classification of a community as one type or another. Clemenson (1992) used 30% as a cutoff for rural communities in Canada. Elo and Beale (1985) used 20% for rural communities in the United States, as did Wilson (2004) in looking at mining communities in United States.

For the purposes of this project, to categorize each CSD by economic activity, we use a threshold of 25% of labour force employed in a sector as a cutoff, using the 1980 SIC codes employed by the census, supplemented with a threshold of 25% of the population 65 years of age or more for the purpose of

determining if a community is a retirement community. A more detailed explanation of this approach is described in Appendix B. The economic sectors are:

- agricultural communities
- fishing communities
- forestry communities
- mining communities
- tourism communities
- manufacturing communities
- dynamic services communities (includes transportation and storage industries, communication and other utility industries, wholesale trade industries, finance and insurance industries, real estate operator and insurance agent industries, and business service industries (Alasia 2004))
- non-market services communities (includes government service industries, educational service industries, and health and social service industries (Alasia 2004))
- retirement communities (65 years of age and over)
- dual specialization communities
- non-specialized communities

If an individual CSD or community had a labour force concentration of 25% in any one sector (or 25% or more of the population was 65 years of age and over), it was classified or clustered into that sector. To accommodate the fact that some communities may have more than one concentration of economic activity, a community was classified as “dual specialization” if this was the case (for example, a community might have 25% of its labour force in agriculture, and another 25% in dynamic services). Similarly, if it did not have any concentrations at the chosen threshold, it was classified as “non-specialized”. This approach is consistent with the work of Ehrensaft and Beeman (1992), and Randall and Ironside (1996). These authors emphasise that not all communities are easily classified into only type of economic activity.

#### *Socio-Economic Characteristics of Economic Clusters*

There is no consensus in the literature about which measures or variables should be used to describe specific types of economic clusters, or should be used to measure differences among different types of clusters. The recent work of Stedman *et al.* (2004), however, provides a useful point of departure for this work. In summarizing the literature on this issue, they note that there is no consensus, but that in most studies looking at natural resource dependency, typical measures include those associated with education attainment, mobility, poverty, employment (or unemployment), and income. The specific choice of one or more variables or indicators of these is relatively subjective and highly variable from one study to the next. Stedman *et al.* (2004) used the following measures of community well-being in natural resource dependent communities across Canada:

- percent with university degree
- percent moved to community in last 5 years
- incidence of low income among families
- unemployment rate
- mean census family income

In their measurement of the relationship (correlation) between the percent of the labour force employed in all natural resource sectors combined, and these variables, they used a continuous measure of 0% to 100% of the labour force employed in the natural resource sectors against the identified variables. We agree

with this variable selection and approach in general, and offer some slight modifications to suit this specific study. We adopt the same measure of education attainment and mobility, but feel there are more appropriate variables for the other issues, thus:

- percent with university degree
- percent moved to community in last 5 years
- incidence of low income among all persons - we choose this measure because it combines the incidence among both families and individuals, who, in some communities, are a relatively larger portion of the population and who may be experiencing low income
- unemployment rate, population 25 years and over - we choose this measure because it more accurately reflects the segment of the population - the older workers - who may have trouble adjusting to changes in the local economy
- median household income - we choose this measure because it reflects all types of households present in the community, and the median income more takes into account distributional considerations (half of the households are above this, and half are below) whereas the mean income can be distorted by a small number of very high or very low incomes

A detailed discussion of the specific relationship (correlations) between each of these variables and employment in each economic sector is provided in Appendix C.

Furthermore, to summarize the characteristics of different types of communities, a longer list of social and economic variables is provided to describe characteristics of each sector. The summary tables are also provided in Appendix C. The range of variables chosen reflect a broad mix of available standard social and economic descriptive variables available from the Census on a consistent basis over time (to allow for longitudinal comparisons), and are among the most common used in many other studies of rural communities and small places (see, for example, Alasia 2004; Stamm 2004; Wilson 2004; Parkins *et al.* 2003; Rupnik *et al.* 2001; Hawkins 1995; Kessab *et al.* 1995; Cook and Mizer 1994; Nord and Luloff 1993; Clemenson 1992; Humphreys 1990; Himmelfarb 1976), and include.

- Population change
  - Population percentage change, 1996-2001
- Gender
  - Percentage of males
- Education attainment
  - Percent persons with no high school diploma
  - Percent persons with high school diploma
  - Percent persons with university degree
- Mobility status
  - Percent 5-year non-movers
- Housing characteristics
  - Percent dwellings owned
  - Percent dwellings minor repair
  - Percent dwellings major repair
  - Percent built pre-1946
  - Percent built 1996-2001
  - Percent tenants pay 30% or more
  - Percent owners pay 30% or more
  - Percent dwellings single-detached

- Age
  - Percent age 0-14
  - Percent age 65 and over
- Labour force activity
  - Participation rate, population 15 years and over
  - Employment rate, population 15 years and over
  - Unemployment rate, population 15 years and over
- Employment income
  - Employment income % of total income
- Other income sources
  - Government transfer payments % of total income
- Low income status
  - Incidence of low income in 2000 - all

Appendix D provides a listing of the CSDs which fall into each economic cluster.

#### *Limitations of the Framework*

It is important to emphasize that this framework (as with any framework or approach for analysis of places) for clustering small communities in rural Canada has some limitations. These include:

Given the dynamics of economic change over time, individual communities or CSDs may move in and out of categories over time. For example, a community with 25% of its labour force employed in mining in 1986, for example, may have less than that in 2001, and thus be classified as a different type of community. The framework provides a tool for assigning a given community to a given type of economic activity at any one point in time.

The characteristics of a particular economic cluster may change over time. As communities age and mature and move through different economic development processes and cycles, their social and economic characteristics may change. This will be explored more in the next phase - but the key point is that the variables identified (and their values) provide a basis for monitoring changes in an economic cluster over time.

The selection of the 25% level as the threshold for assigning a community to a particular type of economic activity might need to be reviewed and modified at some future time. Flexibility in the approach is required. For example, as our economy changes over time, there might be a need to adopt different thresholds other than 25%. As employment levels decline in the primary sector, it might be necessary to think about lowering the threshold for a community to be assigned as a fishing community or a forestry community. There are examples of this practice, where frameworks and models are fine-tuned without dropping the core principles employed. One example would be the ongoing modifications made to the calculation of the low income cutoffs (LICOs) by Statistic Canada. These are periodically adjusted to take into account inflation, changing incomes and expenses of households, family size, and size and location of the community. Another example within CMHC is the calculation of housing need using the Core Need model. Over time, this model has been refined to reflect changes in housing standards and changes to incomes.

In a similar way there might be a need to adopt a broader or narrower range of economic cluster categories, to reflect a new reality of economic activity in small places. For example, as

economies in small communities evolve over time, there might be a need to identify a range of specific dual economy communities, such as retirement and forestry, or non-market services and agriculture. The definition of specific for either or both would need to be debated and tested.

The next phase of this study examines issues of how to assess changes to the economic activity of a community over time.

**Appendix A:**

---

Table 10: Economic and Other Variables for Community Classification - 1996 Census, Statistics Canada

---

**EMPLOYMENT BY INDUSTRY**

All industries, pop. 15 yrs +  
-Agricultural & related service industries  
-Fishing and trapping  
-Logging & forestry  
-Mining, quarrying, and oil  
-Manufacturing  
-Construction  
-Transportation & storage  
-Communication & other utilities  
-Wholesale trade  
-Retail trade  
-Finance & insurance  
-Real estate & insurance agent  
-Business service  
-Government service  
-Education  
-Health & social service  
-Accommodation, food & beverage  
-Other service industries

**AGE COMPOSITION**

Total population

## Bibliography

- Alasia, A. 2004. Mapping the Socio-Economic Diversity of Rural Canada. *Rural and Small Town Analysis Bulletin* 5(2): 1-36. Catalogue No. 21-006-XIE.
- Barnes, T. and R. Hayter. 1992. The little town that could: Flexible accumulation and community change in Chemanius. *Regional Studies* 26: 647-663.
- Beshiri, R. 2001a. Employment Structure in Rural and Small Town Canada: The Primary Sector. *Rural and Small Town Analysis Bulletin* 2(7): 1-16. Catalogue No. 21-006-XIE.
- Beshiri, R. 2001b. Employment Structure in Rural and Small Town Canada: The Manufacturing Sector. *Rural and Small Town Analysis Bulletin* 2(8): 1-15. Catalogue No. 21-006-XIE.
- Bollman, R., R. Beshiri, and A. de Champlain. 2003. The Rural and Small Town Labour Market. In: *The New Countryside: Geographic Perspectives on Rural Change*, edited by K. Beesley, H. Millward, B. Ilbery, and L. Harrington, 214-239. Brandon: Brandon University.
- Bone, R. 1998. Resource Towns in the Mackenzie Basin. *Cahiers de Géographie du Québec* 42 (116): 249-259.
- Bradbury, J.H. 1988. Living with Boom and Bust Cycles: New Towns on the Resource Frontier in Canada, 1945-1986. In: *Resource Communities: Settlement and Workforce Issues*, edited by T.B. Brealey, C.C. Neil, and P.W. Newton, 3-20. Australia: CSIRO.
- Bradbury, J.H. 1984. Declining Single-Industry Communities in Quebec-Labrador, 1979-1983. *Journal of Canadian Studies* 19(3): 125-139.
- Bruce, D., G. Halseth, and K. Giesbrecht. 2004. *Economic Development Framework of Small Communities in Canada. Phase One: An Inventory of Small Communities*. Canada Mortgage and Housing Corporation. Appendix One: Literature Review.
- Clemenson, H. 1992. Are single industry towns diversifying? An examination of fishing, forestry and mining towns. In: *Rural and Small Town Canada*, edited by R. Bollman, 151-166. Toronto: Thompson Educational Publishing, Inc.
- Cook, P. and K. Mizer. 1994. *The Revised ERS County Typology An Overview*. Herndon, VA: United States Department of Agriculture, Economic Research Service. Rural Development Research Report Number 89.
- Cramer, L., J. Kennedy, and R. Krannich. 1993. Changing Forest Service values and their implications for land management decisions affecting resource-dependent communities. *Rural Sociology* 58: 475-491.
- Effland, A. 2000. When Rural Does Not Equal Agricultural. *Agricultural History* 74(2): 489-501.
- Ehrensaft, P. and J. Beeman. 1992. Distance and diversity of nonmetropolitan economies. In: *Rural and Small Town Canada*, edited by R. Bollman, 193-224. Toronto: Thompson Educational Publishing, Inc.

- Elo, I.T. and C.L. Beale. 1985. *Rural Development, Poverty, and Natural Resources: An Overview*. Workshop Paper Series. Washington, D.C.: Resources for the Future, National Center for Food and Agricultural Policy.
- Everitt, J.C. and A.M. Gill. 1993. The Social Geography of Small Towns. In: *The Changing Social Geography of Canadian Cities*, edited by L. Bourne and D. Ley, 252-264. Montreal: McGill-Queen's Press.
- Farkouh, G. 1999. 'Never Say Die': Seven Years Later, Elliot Lake Enjoys New Business and Renewed Optimism. In: *Boom Town Blues: Elliot Lake - Collapse and Revival of a Single-Industry Community*, edited by A. Mawhiney and J. Pitblado, 188-196. Toronto: Dundurn Press.
- Gibson-Graham, J.K. 1996. *The End of Capitalism (As We Knew It): A Feminist Critique of Political Economy*. Oxford: Blackwell Publishers.
- Gill, A. 2000. From growth machine to growth management: the dynamics of resort development in Whistler, British Columbia. *Environment and Planning A* 32: 1083-1103.
- Gill, A.M. n.d. Resource Towns in British Columbia: The Development of Tumbler Ridge. In: *Geographic Perspectives on the Provincial Norths*, edited by M.E. Johnston, 134-150. Lakehead U: Centre for Northern Studies. Northern & Regional Studies Series 3.
- Gill, A.M. and G.C. Smith. 1985. Residents' Evaluative Structures of Northern Manitoba Mining Communities. *The Canadian Geographer* 29 (1), 17-29.
- Goltz, E. 1992. The Image and the Reality of Life in a Northern Ontario Company-Owned Town. In: *At the End of the Shift: Mines and Single-Industry Towns in Northern Ontario*, edited by M. Bray and A. Thompson, 62-96. Toronto and Oxford: Dundurn Press Ltd.
- Hall, C. and S. Page. 1999. *The Geography of Tourism and Recreation: Environment, Place, and Space*. London and New York: Routledge.
- Halseth, G. 2004. Introduction. In: *Building for Success: Explorations of Rural Community and Rural Development*, edited by Greg Halseth and Regine Halseth. Brandon, Manitoba: Rural Development Institute and Canadian Rural Revitalization Foundation.
- Halseth, G. 1998. *Cottage Country in Transition: A Social Geography of Change and Contention in the Rural-Recreational Countryside*. Montréal: McGill-Queen's University Press.
- Halseth, G. and L. Sullivan. 2003. *Building Community in an Instant Town: A Social Geography of Mackenzie and Tumbler Ridge, B.C.* Prince George, B.C.: University of Northern British Columbia.
- Halseth, G., L. Sullivan, and L. Ryser. 2003. Service Provision as Part of Resource Town Transition Planning: A Case from Northern British Columbia. In: *Opportunities and Actions in the New Rural Economy*, edited by D. Bruce and G. Lister, 19-46. Pictou, Nova Scotia: Rural and Small Town Programme.
- Hawkins, L. 1995. *Mapping the Diversity of Rural Economies: A Preliminary Typology of Rural Canada*. Ottawa: Statistics Canada.



- Hay, D. 1992. Rural Canada in Transition: Trends and Developments. In: *Rural Sociology in Canada*, edited by D. Hay and G. Basran, 16-32. Toronto: Oxford University Press.
- Himelfarb, A. 1976. *The Social Characteristics of One-Industry Towns in Canada: A Background Report*. Royal Commission on Corporate Concentration. Fredericton, New Brunswick: University of New Brunswick, Department of Sociology. Study No. 30.
- Humphreys, C. 1990. Timber-Dependent Communities. In: *American Rural Communities*, edited by A.E. Luloff and L. Swanson, 34-60. Boulder: Westview Press, Inc.
- Interdepartmental Committee on Rural and Remote Canada. 1995. *Rural Canada: A Profile*.
- Iverson, R. and C. Maguire. 2000. The relationship between job and life satisfaction: Evidence from a remote mining community. *Human Relations* 53(6): 807-839.
- Jones, S. 1933 Mining and Tourist Towns in the Canadian Rockies. *Economic Geography* 9: 368-378.
- Kessab, C, A. Luloff, and F. Schmidt. 1995. The Changing Impact of Industry, Household Structure, and Residence on Household Well-Being. *Rural Sociology* 60(1): 67-90.
- Krahn, H. and J. W. Gartrell. 1981. *Social Mobility in a Canadian Single-Industry Community*. Edmonton: Department of Sociology, University of Alberta. Discussion Paper No. 26.
- Kroetsch, R. 1993. *Alberta*. Edmonton: NeWest Press.
- Lucas, R. 1971. *Minetown, Milltown, Railtown: Life in Canadian communities of single industry*. Toronto: University of Toronto Press.
- Luloff, A.E. 1990. Small Town Demographics: Current Patterns of Community Development. In: *American Rural Communities*, edited by A.E. Luloff and L. Swanson, 7-18. Boulder: Westview Press, Inc.
- MacDonald, M. and M. Connelly. 1989. Class and Gender in Fishing Communities in Nova Scotia. *Studies in Political Economy* 30: 61-85.
- Machlis, G. et al. 1990. Timber, Minerals, and Social Change: An Exploratory Test of Two Resource-Dependent Communities. *Rural Sociology* 55(3): 411-424.
- Marshall, J. 2001. Connectivity and Restructuring: identity and gender relations in a fishing community. *Gender, Place and Culture* 8(4): 391-401.
- Matthiasson, J.S. 1971. *Resident Mobility in Resource Frontier Communities: An Examination of Selected Factors*. Winnipeg: Centre for Settlement Studies, University of Manitoba. Series 2: Research Reports No. 6.
- Newfoundland Statistics Agency. 1997. *The Atlantic Groundfish Agency: An Analysis of the Program on a Regional Basis*. Department of Finance, Economics and Statistics Branch. St. John's, Newfoundland: Queen's Printer.
- Nord, M. and A. Luloff. 1993. Socio-economic Heterogeneity of Mining-Dependent Counties. *Rural Sociology* 58(3): 492-500.

- Organisation for Economic Co-operation and Development. 1996. *Better Policies for Rural Development*. Paris: OECD.
- Parkins, J., R. Stedman, and T. Beckley. 2003. Forest-Sector Dependence and Community Well-Being: A Structural Equation Model for New Brunswick and British Columbia. *Rural Sociology* 68(4): 554-572.
- Peacock, A. 1985. Tumbler Ridge: a new style resource town. *Priorities* 13: 6-11.
- Penner, V. and D.W. Friesen. *Altona: A Pictorial History*. Altona: DW Friesen.
- Porteous, J. D. 1976. Quality of Life in British Columbia Company Towns: Residents' Attitudes. *New Communities in Canada: Exploring Planned Environments*. N.E.P. Pressman (ed). Waterloo: CONTACT, Journal of Urban and Environmental Affairs, 332-346.
- Randall, J. and G. Ironside. 1996. Communities on the Edge: An Economic Geography of Resource-Dependent Communities in Canada. *The Canadian Geographer* 40 (1): 17-35.
- Reed, M. n.d. *Gender at Work in Forestry Communities of British Columbia, Canada*. Unpublished. Department of Geography, University of Saskatchewan.
- Riffel, J.A.. 1975. *Quality of Life in Resource Towns*. Ottawa: Ministry of State, Urban Affairs Canada. Info Canada.
- Robinson, G. 1990. *Conflict and Change in the Countryside*. New York: Belhaven Press.
- Robinson, I. 1962. *New Industrial Towns on Canada's Resource Frontier*. Chicago: University of Chicago. Program of Education and Research in Planning Research Paper No. 4. Department of Geography Research Paper No. 73.
- Robinson, J. 1989. *Concepts and Themes in the Regional Geography of Canada*. Revised edition. Vancouver: Talonbooks.
- Robson, R. 1991. A Short History of Mining Communities. In: *Long Distance Commuting in the Mining Industry: Conference Summary*, edited by M. Shrimpton and K. Storey, 28. Centre for Resource Studies, Queen's University.
- Rupnik, C., M. Thompson-James, and R. Bollman. 2001. Measuring Economic Well-Being of Rural Canadians Using Income Indicators. *Rural and Small Town Canada Analysis Bulletin* 2 (5): 1-17. Catalogue No. 21-006-XIE.
- Sinclair, P. 1992. Atlantic Canada's Fishing Communities: The Impact of Change. In: *Rural Sociology in Canada*, edited by D. Hay and G. Basran, 84-98. Toronto: Oxford University Press.
- Stamm, L. 2004. *A Socio-Economic Profile of the Robson Valley*. McBride, B.C: Prepared for the Fraser Headwaters Alliance, Dunster, B.C.
- Stauffer, B. 2001. *Resource Development Patterns of the British Columbia Salmon Canning Industry, 1870-1970*. Unpublished Thesis: Master of Arts. Prince George: University of Northern British Columbia.

Stedman, R., J. Parkins, and T. Beckley. 2004. Resource Dependence and Community Well-Being in Rural Canada. *Rural Sociology* 69 (2): 213-234.

Swanson, L. 1990. Rethinking Assumptions About Farm and Community. In: *American Rural Communities*, edited by A.E. Luloff and L. Swanson, 19-33. Boulder: Westview Press, Inc.

Williamson, T. and S. Annamraju. 1996. *Analysis of the Contribution of the Forest Industry to the Economic Base of Rural Communities in Canada*. Ottawa: Industry, Economics and Programs Branch, Canadian Forest Service, Natural Resources Canada. Working Paper No. 43.

Wilson, L. 2004. Riding the Resource Roller Coaster: Understanding Socioeconomic Differences between Mining Communities. *Rural Sociology* 69 (2): 261-281.

Ziebarth, A. 2000. Local Housing Policy: The Small Town Myth and Economic Development. *Rural America* 15 (2): 18-23.