Economic Development Framework of Small Communities in Canada

Phase Three: Framework to Document Small Communities

Literature Review

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1.0   Review of Phase I

The purpose of the first phase of this project was to provide background information on the different types of small communities across Canada. Differences 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, equivalent to CSDs; 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 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.

2.0   Review of Phase II

The purpose of Phase II was to identify a clustering approach to categorize communities into economic sectors or activities. Labour force activity (by industry type) and age related characteristics were used to cluster small places across Canada. The second phase used a threshold of 25% of labour force employed in a sector as a cutoff for CSDs (for communities of 50 to 2,499 and 2,500 to 4,999 population with weak or no MIZ status), using the 1980 SIC codes employed by the census, supplemented with a threshold of 25% of the population 65 years of age or more to determine if a community is a retirement community.

Within this context, communities were clustered into the following economic sectors: agricultural, fishing, forestry, mining, tourism, manufacturing, dynamic services, non-market services, retirement, dual specialization, and non-specialized communities. In addition, a range of characteristics were used to describe socio-economic correlations, amongst different clusters. These characteristics included percent with a university degree; percent moved to the community in the last five years; incidence of low income among all persons; unemployment rate; population 25 years and over; and median household income. This list of characteristics was supplemented with a longer list of descriptive characteristics including population change, gender distribution, education, mobility status, housing characteristics, age distribution, labour force activity, employment income, other income sources, and low income status. In exploring 1432 communities, findings indicated that:

- Of those communities with a single specialty, 277 communities had over 25% of the labour force employed in agriculture. In larger communities there is a larger and significant relationship between more people **employed in agriculture**, and fewer people having a university degree.

- Excluding places categorized with dual specialization, there are 19 communities with 25% or more of the labour force employed in fishing. In smaller communities there is a significant relationship between more people **employed in fishing**, and fewer people having a university degree. In larger communities the strength of the relationship with higher unemployment, fewer people moving into the community, and higher median household incomes is stronger than in smaller communities.

- There are 10 communities with 25% or more of the labour force employed in forestry. In smaller communities there are significant but weak relationships between a rise in **employment in forestry** and having more people moving into the community and with high unemployment among older workers. In larger communities there is a significant relationship with declining median household incomes and rising employment in forestry.

- There are 26 communities with 25% or more of the labour force employed in mining. In smaller communities there is a significant but modest positive relationship between higher levels of **employment in mining** and in-migration of people into the community, and a less significant and very weak relationship with a decline in unemployment among older workers. In larger communities there is a strong and significant relationship between a rise in mining employment and a rise in median household income.

- There are 15 communities with 25% or more of the labour force employed in tourism. In larger communities the positive relationships between a rise in **employment in tourism** and an increase in persons with university degree, and an increase in people moving into the community, is both larger and more significant than in smaller communities.

- There are 120 communities with 25% or more of the labour force employed in manufacturing. In smaller communities an increase in **manufacturing employment** is strongly related to a weak decline in the number of people moving into the community, a modest rise in the incidence of low income, and a modest rise in median household income. In larger communities, the strength of the significant relationship between a rise in manufacturing employment and a decline in persons with university degrees and a rise in unemployment among older workers is stronger than in small communities.

- There are 63 communities with 25% or more of the labour force employed in dynamic services. Dynamic services include 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). In smaller communities there is a more significant but very weak relationship between a rise in **dynamic services employment** and a decrease in the incidence of low income. However, in larger communities, there is a very strong and positive relationship with an increase in people with a university degree, and the strength of the significant relationship to an increase in people moving into the community is much stronger than in smaller communities.

- There are 306 communities with 25% or more of the labour force employed in non-market services. These places are focused upon government service industries, educational service industries, and health and social service industries (Alasia 2004). In larger communities the strength of the positive and significant relationship between a rise in **non-market services employment** and the number of people with a university degree is stronger than in smaller communities, while the opposite is true for the increase in the number of people moving into the community (stronger in smaller communities).

- There are 45 communities with 25% or more of the population age 65 and over, and less than 25% of the labour force employed in any sector. In smaller communities there are significant and modest to weak relationships with an increase in the number of **people age 65 years and over** and a decline in the number of people moving into the community, a drop in the unemployment rate among older workers, and lower levels of median household income. In larger communities, there is a positive correlation with a rise in the incidence of low income and a very strong relationship to a decline in median household income.

- There are 372 communities with 25% or more of the labour force employed in two sectors, or with 25% of the labour force employed in one sector and 25% or more of the population age 65 and over, and thus are **dual specialization** communities.

- There are 179 communities with fewer than 25% of the labour force employed in any sector, and less than 25% of the population age 65 and over, and thus are **non-specialized** communities.

Therefore, phase II of this project provided a foundation to explore characteristics of small places over time. This goes beyond previous studies that have focused on clustering rural and small town places by economic activity, but have failed to address how characteristics change on a longitudinal basis. These changes will have important implications for housing needs and service demands.

3.0   Introduction: Phase III Overview

The purpose of this literature review is to propose a suitable methodology to identify the community stage of economic development activity (e.g. birth, growth, plateau, declined, disappeared, transformed). Within this framework, it will identify a range of socio-economic characteristics (e.g. population, population change, age structure, labour force characteristics, incomes, and migration) that could be used to indicate the community stage of economic development activity. Within this context, this report will identify small communities that have experienced some or all stages of economic development activity and use their respective history of socio-economic characteristics to indicate their stage(s) of economic development activity. A rationale for an analytical approach is proposed for using these socio-economic characteristics as indicators to determine the thresholds between each community stage of economic development. Stemming from phase II, this report will note any different types of indicators for exploring communities with different economic activities as they experience different stages of development. Finally, this report will discuss the relative explanatory power of each cluster of characteristics in their ability to indicate the community stage of economic development activity for each type of community.

4.0   Models of Community Development

There have been numerous attempts to understand the phases of development in rural and small town places (Bone 1998; Bradbury 1988; Riffel 1975; Lucas 1971). Most models of community development have focused on single-industry towns. In spite of this, as Wilson (2004) acknowledges, most studies on resource communities, such as mining towns, focus on periods of downsizing or periods of rapid growth. Other studies have been more comprehensive and have explored multiple phases of development in resource and tourism towns. This section includes a description of these models.

4.1 Life Cycle Model

Before examining possible changes at the community level, it is equally important to explore possible changes that may occur at the individual level. There are numerous changes that take people through their life span and may influence how many times they move, as well as the types of housing they pursue. Resident mobility may be induced by changes in employment or changes stemming from life-style factors (Pacione 2001). Kirby (1983) and Yeates and Garner (1971) identify models that explore decisions people make about moving in accordance to their life cycle (Table 1). This has important implications for the types of housing that may be required during each stage of a person's life (Pacione 2001). This 'Life Cycle Model' research shows that even though families may move eight or nine times in a lifetime, people may make an average five moves that are directly related to changes in their life cycle stage.

Rossi (1980) and Yeates and Garner (1971) explore why families and individuals move. During the early years, location decisions are made by a child's parents. As people reach maturity and gain independence, they may move for employment or educational purposes. The next move comes with marriage. Location decisions will become related to family needs. However, with dual incomes, moves may also be influenced by a desire to be close to services, such as a range

of recreational facilities. Changes in housing needs emerge as the couple has children. Location decisions are also influenced by proximity of services for the children's needs, such as proximity to schools. A final move may occur after the size of the household declines after children leave home or simply in preparation for retirement.

Table 1: Changes of Residence Related to Stages in the Life Cycle

Age	Stage		Move
0	Birth		
	Child	→	1
	Adolescent		
20	Maturity	→	1
	Marriage	→	1
30	Children	→	1
40-50	Children mature		
60-70	Retirement	→	1
70 and over	Death		

Source: Yeates and Garner (1971).

Pacione (2001) similarly outlines ten life-cycle events related to residential location. These include completion of secondary education, completion of tertiary education, completion of occupational training, marriage, birth of the first child, birth of the last child, first child reaches secondary school age, last child leaves home, retirement, and death of a spouse. During the maturity and child bearing stages, many individuals will occupy rental flats or houses (Kirby 1983). As the family expands and raises their children, households are more likely to occupy owned dwellings. However, moves may be restricted due to limited resources or limitations placed on tenure (Kirby 1983). Life cycle models alone, however, do not identify specific measures or thresholds for characteristics to track changes from one stage of community development to another in places with different economic activities.

4.2 Community Development Models

Many community development models have been detailed, but many of these have focused upon specific types of communities. An early model was developed by Lucas (1971) who proposed that single-industry towns and regions undergo four stages of development including *construction*, *recruitment*, *transition*, and *maturity* (Table 2).

Resource towns grow rapidly after the discovery of a resource or after technology, tariff protection, or demand made resource production profitable (Lawrence *et al.* 2001; Robinson 1962). During the construction phase, resource towns may be characterized largely by a transient, single male population (Halseth and Sullivan 2000; Reed 1995; Bradbury 1988). These are individuals who are highly mobile and willing to make short-term sacrifices to make money (Himelfarb 1976). During the early stages of these communities, female labour participation may be limited as the service and business sectors are undeveloped (Robinson 1962).

There is also high labour turnover during the recruitment phase with many young people and families from diverse ethnic backgrounds and high birth rates (Bradbury 1988). This stems from

workers who prefer to make money, establish credit, and then adopt 'get-out attitude' (Robinson 1962). However, other couples may leave because of limited employment opportunities for women (Beckley and Burkosky 1999; Gibson-Graham 1996; Reed 1995; Himelfarb 1976). There remains high labour turnover for unmarried men. The recruitment phase will also experience an increase in residential construction and business development as a community experiences an influx of families (Hanson 2001).

During the third stage, a stage of transition, the community changes from being dependent upon the company to becoming a more independent community. A sense of community stability and involvement develops. From this point, these resource towns are generally characterized by a young, family-oriented population (Halseth and Sullivan 2000; Reed 1995; Lucas 1971; Robinson 1962).

During the final stage of maturity, there is lower mobility in the workforce, more retirees, and out-migration of youth who leave the community to obtain a higher education or search for other employment opportunities (Bone 1998; Bradbury 1988; Himelfarb 1976). Such characteristics can be found in the maturing communities of Kitimat and McBride, B.C. (Statistics Canada 1971, 1981, 1991, 1996, 2001). Agricultural communities will also experience a maturing population as children opt not to take over the farm from their parents, resulting in an aging population with a growing number of seniors (Hanson 2001). However, the model Lucas developed did not reflect global restructuring challenges to these small town places. Furthermore, it is important to note that while communities benefited from tariff protection and subsidization in the past, this trend has been replaced with a preference for free markets, user pay systems, and self-help mechanisms (Lawrence *et al.* 2001).

Table 2: Model of Community Development - Lucas (1971)

Town Management	Stage	Demographic / Characteristics
Lucas (1971)		
company	construction	high population turnover, mostly young men
	recruitment	young family oriented population, strong ethnic mix
community	transition	stable workforce
	maturity	lack of job mobility, youth out-migration

Source: Adapted from Lucas (1971).

In Table 3, Bradbury added to Lucas' model a fifth stage termed 'winding down' and a sixth stage termed 'closure' (Bone 1998; Bradbury 1988). These stages reflect company decisions to close the primary employer in a small town, particularly in mining towns. Due to isolation and limited employment options, large out-migration led to the 'winding down' and 'closure' of such small towns as Schefferville, Quebec (Archer and Bradbury 1992; Clemenson 1992).

Small towns that may be susceptible to these stages may include resource dependent communities where a single sector is dominated by a single large company. Places at risk may also include communities with poor quality resources or where the resources are inaccessible or isolated from markets. Furthermore, communities with absentee land ownership and a low-skilled labour force may also be more vulnerable (Stedman *et al.* 2004; Peluso *et al.* 1994).

Poverty may also be more associated with agricultural communities with low profit margins and limited alternative sources of employment and income off of the farm (Stedman *et al.* 2004). Residents may experience personal, family, and community related stresses that increase demands for support services (Freudenberg and Gramling 1994). Furthermore, the community may experience the loss of white-collar workers or government employees who also provide leadership on committees and organizations within the community (Lawrence *et al.* 2001; Freudenberg and Gramling 1994).

It is also important to note that agricultural communities may exhibit a range of unique characteristics during declining periods. For example, while the population and number of farms may be reduced during declining periods (Effland 2000; Everitt and Gill 1993; Robinson 1990; Zimmerman and Moneo 1971), agricultural communities may follow a process to amalgamate rural properties to increase the viability of their operations (Lawrence *et al.* 2001). Still, median real estate values may fall during economic crises (Lobao and Meyer 1995). Women's labour in farming and non-farming employment is mobilized during economic downturns in order to enable family farms to survive and compete with larger scale farming operations (Lobao and Meyer 1995). In fact, residents, particularly women, in these communities will pursue off-farm income (Lawrence *et al.* 2001; Lobao and Meyer 1995). Small places that do not pursue non-farm employment opportunities may face further declines (Swanson 1990). Young farmers will be particularly affected since they are newer and more highly leveraged (Lobao and Meyer 1995). Furthermore, during this period, agricultural communities may experience the loss of youth and services. Consequently, some agricultural communities show aging populations that need appropriate services (Lawrence *et al.* 2001). Local dependency ratios become high (Luloff 1990).

As experienced in the mining community of Kirkland Lake, Ontario, communities facing decline may experience municipal budget deficits, a fall in real estate prices, and a drop in housing prices. A number of business closures may also take place and unemployment rates rise (Mavrinac 1992).

Table 3: Model of Community Development - Bradbury (1988)

Town Management	Stage	Demographic / Characteristics
Lucas (1971)		
company	construction	high population turnover, mostly young men
	recruitment	young family oriented population, strong ethnic mix
community	transition	stable workforce
	maturity	lack of job mobility, youth out-migration
Bradbury (1988)		
company (care taker)	winding down	job losses
	closure	out-migration

Source: Adapted from Lucas (1971); Bradbury (1988).

However, previous work notes that phases of development do not imply sequential progress through each successive phase. Development can be halted at any stage (Paget and Rabnett 1983). For example, Pithole, Pennsylvania's entire emergence and boom and bust cycle in the

oil industry lasted just 500 days before it became a ghost town in 1865 (Freudenberg and Gramling 1994). A number of other factors can also impact the pace and movement of a place through different stages of development. For isolated towns, state subsidies and regional development grants can offset the costs of location and progression to maturity or decline. Other industries, such as agriculture, may be protected by tariff regimes and price-support mechanisms (Conradson and Pawson 1997). Even the use of technology may compensate for distance (Peluso *et al.* 1994).

Growth may also prevent a place from completing its life cycle in a given economic sector. Instead, communities may transform their economies due to technological development. For example, forestry towns may become 'forest manufacturing' towns with pulp and paper plants or sawmilling operations. Agricultural and fishing communities may develop food processing plants. However, they move from being classified as agricultural and fishing communities to manufacturing places.

Similar to Lucas, Bone (1998) developed a five stage model to compare changes in the population structure with changes in resource town activities as these places developed and matured (Table 4). In the first stage, the company announces plans to build a resource town and construction begins. After the completion of the town site, there is a sharp increase in the population as workers and their families arrive. During the third stage, the population stabilizes as resource production reaches its peak. The final stage of the model occurs when the company announces closure and the population of the town drops when the town is abandoned. Again, while Bone's model reflects some of the restructuring challenges that result in town closure, it does not include alternative development strategies that have emerged to enable small places to diversify into a mixed economy or to develop a new industry.

Table 4: Population Life-cycle Model for Resource Towns - Bone

Phase	Population Characteristics	Associated Events
1	Uninhabited site	Company announces plans to build a resource town
2	Sharp increase in population size	With the completion of the construction of a company town, workers and their families arrive
3	Population size stable	Resource production reaches its peak and the demand for additional workers ceases
4	Sharp decrease in population size	Company decides to close its operations: workers and their families depart
5	Population size returns to zero	Company closes its mine and the town is abandoned

Source: Bone (1998).

Instead, Bone (1998) further placed towns into four categories to reflect the potential of a place to sustain a life cycle through revitalization or diversification, as opposed to town closure. These four categories include boom-bust towns, towns of uncertainty, diversified towns, and sustainable towns. First, boom-bust towns refer to single-industry mining towns that have completed their population life cycle, such as Pine Point, Northwest Territories. Construction of this town and its mine began in 1962. The announcement of the mine closure came in 1983, and by 1996, Pine Point was a ghost town (Bone 1998). Bone (1998) predicts that Pine Point's fate was influenced by its remote location and limited access to the outside world. Furthermore, it had to compete with an established regional service centre, Hay River, that already performed

basic service functions for the residents of the region before Pine Point was established (Bone 1998). This provides an important example that demonstrates the need to not only look at the local context, but also the regional context.

Table 5: Ability of Towns to Sustain the Life Cycle Through Revitalization / Diversification

Category	Characteristics	Examples
Boom-bust towns	- single industry mining towns - completed population life cycle - remote location - limited access to outside - competing with regional centres	Pine Point, NWT
Towns of uncertainty	- single industry mining towns - early phase of population life cycle - opportunity exists to diversify economic base	Fort McMurray, Alberta Norman Wells, NWT
Diversified towns	diversify economic base (i.e. from mining to services centres)	Yellowknife, NWT
Sustainable towns	- based on production of renewable resources (i.e. forestry) - ability to avoid short life cycle of mining towns	Mackenzie, B.C.

Source: Bone (1998).

Towns of uncertainty are single-industry mining towns in the early phase of their population life-cycle that still have an opportunity to diversify their economic base. Two examples are Fort McMurray in northern Alberta and Norman Wells in the Northwest Territories (Bone 1998). Fort McMurray is far from other population centres, making it difficult for the town to develop a regional service role. However, it has a 'complex urban infrastructure' to meet local needs that is noted as an advantage.

Yellowknife was identified as an example of a diversified town. 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). Finally, sustainable resource towns are those based on the production of renewable resources, such as forestry towns. With a sustainable resource management strategy, these places can avoid the relatively short life-cycle associated with most mining towns (Bone 1998). An example of a sustainable resource town is Mackenzie, B.C. that is based primarily on forest products manufacturing.

To compliment new paths for communities, Halseth and Sullivan (2002) build upon earlier community development models by Lucas (1971) and Bradbury (1988) and suggest a seventh stage termed 'alternative futures' to closure (Table 6). As a result of economic restructuring and local economic development initiatives, some small towns have been sustained. These places have pursued tourism, diversified into more than one industry, have created small scale value added industries, or have taken advantage of new communication technologies.

For example, Reefton, New Zealand, originally established as a gold-mining town, transformed to have a diversified economy based upon coal mining, forestry, and agriculture following World War I (Conradson and Pawson 1997). In the 1960s, a clothing manufacturing factory was also set up. It is important to note, however, that much of the success of this transition was based on the continued availability of state subsidies for transport and power. Reefton would face

challenges during the economic and social restructuring stemming from new policies of the Labour Party with declines in the levels of state sector employment, such as those with the New Zealand Forest Service. After the workforce was restructured, Reefton experienced a plateau at a lower level as it was able to attract residents with inexpensive housing and maintain its hospital for an aging population.

Glace Bay, Nova Scotia made the transition from a mining community to a call centre (McGee *et al.* 2002). After a series of layoffs, the final set of layoffs at Cape Breton Development Corporation's last mine occurred in 2001 (Toughill 2001). However, prior to this announcement, the community attracted the Stream International Call Centre from Boston to employ more than 1,100 people (McGee *et al.* 2002). This was accomplished after the government attracted a company to the area using payroll subsidies (Flinn 2003). While this new industry does not provide the same levels of employment for the community, it has allowed the town to plateau at a lower level.

Table 6: Model of Community Development - Halseth and Sullivan (2002)

Town Management	Stage	Demographic / Characteristics
Lucas (1971)		
company	construction	high population turnover, mostly young men
	recruitment	young family oriented population, strong ethnic mix
community	transition	stable workforce
	maturity	lack of job mobility, youth out-migration
Bradbury (1988)		
company (care taker)	winding down	job losses
	closure	out-migration
Halseth and Sullivan (2002)		
community	alternative futures	economic transition, sustainable community development

Source: Adapted from Halseth and Sullivan (2002); Bradbury (1988); and Lucas (1971).

Kirkland Lake, Ontario provides a good example of a community that has experienced several boom and bust cycles and has had to adapt and revitalize itself several times. In 1938, Kirkland Lake had seven major gold mines operating in the area. But throughout the 1950s, 1960s, and 1970s, several mines closed including Tolburn, Wright-Hargreaves, Sir Harry Oake's Lakeshore, and the Upper Canada (Mavrinac 1992). In 1970, the community hired an economic development officer and set up a commission for economic development. Mapping surveys conducted during this time would eventually lead to the opening of the Holt-McDermott Gold Mine. However, they were also able to attract the development of the Adam's iron ore mine. Furthermore, the community developed its tourism industry by building the Museum of Northern History and refurbishing Sir Harry Oake's Chateau (Mavrinac 1992). However, in 1989, Adam's iron-ore mine would close due to poor commodity prices (Mavrinac 1992). Moreover, fewer drills were exploring due to constraints posed by high taxes, capital gains rules, and the elimination of flow-through share tax breaks. Companies were not able to raise exploration funding. Again, the community adapted by developing a custody facility for young offenders and a bus terminal (Mavrinic 1992). Furthermore, an area office for the goods and services tax

and the Federal Department of Veterans Affairs was allocated to Kirkland Lake. A generating power plant has also been constructed by Northland Power. Franchise restaurants, including Tim Horton's and McDonald's, also opened in 1990 (Mavrinic 1992). The community is now facing another phase of decline after Barrick Gold Corporation announced it would wind down operations at the Holt-McDermott gold mine and cut 200 jobs (Edmonton Journal, October 17, 2003).

In the early 1980s, Tumbler Ridge emerged as an instant town created for coal mining in northeastern British Columbia (Halseth *et al.* 2003). Production was based on two open pit coal mines at Quintette and Bull Moose. Construction of the town site began in 1981, and the first residents arrived in 1982 (Page and Rabnett 1983). An extensive social planning assessment went into the planning and development of Tumbler Ridge. It was deemed important that the town site plan provide more than the standard curling rink and ice rink. Multi-purpose spaces, coffee shops, a library, and day care were also viewed as critical pieces to help residents bond and interact within the community. The District of Tumbler Ridge was incorporated on April 9, 1981. During the early stages of development, local government was formed; clubs, associations, and support groups were established; and volunteers emerged. It is difficult, though, to comment on the socio-demographic characteristics of Tumbler Ridge since residents moved into the town largely after the construction of the town site, and, therefore, were not included in the 1981 Census.

Shortly after the announcement of the Quintette mine closure in 2000, the Tumbler Ridge Revitalization Task Force was formed with representatives from not just Tumbler Ridge, but communities around the region. One of this committee's accomplishments was the development of the Tumbler Ridge Housing Corporation and the subsequent housing sale at prices from $23,000 to $28,000 (Halseth and Sullivan 2002). Furthermore, the task force managed to negotiate stable funding with the provincial government if needed to maintain education and health services that would be key for attracting new homeowners. The housing sale was a success in attracting retirees, as well as families and individuals who could commute for employment in the region or take advantage of Internet infrastructure to operate consulting businesses (Halseth and Ryser 2002). After the closure of both the Quintette and the Bullmoose mines, Tumbler Ridge has also been capitalizing on dinosaur finds to develop a museum and 'dino camps' for children.

The case study of Tumbler Ridge demonstrates the importance of cooperation between residents and government in facilitating transition. Other research supports the important role that various levels of government agencies play in working with the private sector, industry, workers, and communities throughout the recovery process (Oregon State University Extension Service 1996; Rempel 1996) (Table 7). Notably, while a community crisis is usually triggered by a single event, the revitalization or recovery processes a three-stage process including *endings*, *neutral zone*, and *new beginnings* (Oregon State University Extension Service 1996). These three stages highlight the development of support networks and the importance of service provision during times of crisis. Such mechanisms help residents to respond to the shock and provide support to workers and their families who have been impacted by industrial restructuring (Halseth *et al.* 2003; Sullivan 2002).

Table 7: The Recovery Process

Recovery Stage	Timing	Community Experiences
Endings	After industry closure	• Experiencing loss • Acceptance and grieving • Compensation • Defining what is gone and what is left
Neutral Zone	1 year after industry closure	• Normalize, clarify, neutralize • Rebuilding identity and connectedness • Monitoring • Creativity
New Beginnings	3-5 years later	• Change cannot be forced • Long term planning - inclusive • Reinforce new beginning

Source: Oregon State University Extension Service (1996).

Another example of a community that developed an 'alternative future' is Maynard, Massachusetts, formerly home to the world's largest woolen mill. In this case, location played a key role in the recovery process. In 1950, the Assabet mill closed and 1,200 jobs were lost (Mullin *et al.* 1986). Previously, many of the mill workers came from two-income families with one member typically working outside of the mill. After the closure of the mill, workers who remained in the community tended to be older and opted for retirement. The town leaders organized a citizens committee to develop recommendations for revitalization and to sell the mill facilities. The purchase price for the mill complex was $200,000, even though the net worth of the facilities according to assessment files was $839,145. Within six months, the town attracted a plastics firm called Bracon Company, and by 1960, the mill was fully rented. The mill was purchased three years later by Maynard Industries Incorporated, which began renting space to industrial tenants.

By 1960, more than thirty small firms were located in the facility (Mullin *et al.* 1986). Three types of companies were attracted to the facility. There were companies developing new products attracted to the mill facility for cheap space, a trainable labour force, and proximity to Greater Boston's research and development firms and universities. The facility also attracted expanding companies with main plant facilities nearby that needed more space, but wanted to still have quick access to its new operations. Finally, the mill attracted companies that needed to consolidate operations.

However, in 1974, the mill facility was purchased by Digital Equipment Corporation which would become a large producer of minicomputers (Mullin *et al.* 1986). Slowly the company began to replace tenants with its own workers and eventually became the sole occupant of the mill. The availability of cheap space, a large labour supply, and a prime location were instrumental in its transition. The town was on the fringe of metropolitan Boston and within easy commuting distance. Other factors were also important to the successful transition of the community. The companies that rented space in the mill in the 1950s and 1960s were modern, growth-oriented companies. Moreover, the municipality had its fiscal affairs in order with little debt or growth pressure.

Lawrence *et al.* (2001) also discuss how agricultural communities have pursued alternative paths

towards tourism. Some farming communities have developed eco-tourism or farm stays. Others have developed retirement homes, wetland tours, and heritage festivals. However, not all agricultural communities have been transformed into different economies by choice. For example, the Oldman River Region in Alberta was historically ranching land. However, in the 1950s, Shell Canada drilled its first well and built a gas processing plant in the town of Pincher Creek. Furthermore, a more mobile workforce and influx of retirees brought escalating land prices and increased pressure for ranch land (Hanson 2001).

Another community development model was put forward by Riffel (1975). The model describes the following stages for resource town development:

- natural or prediscovery,
- prospecting, discovery,
- exploration and survey,
- industrial and community construction,
- industrial operation and community improvement,
- industrial and community operation, including expansion of secondary and service industries,
- community diversification, and
- community maturity.

These stages reflect changes in both economic activity and residential characteristics. For example, during the construction and development of the town and the industrial operation, the annual turnover rate can be as high as 200% (Riffel 1975). During the industrial and community operation phase, turnover rates are reduced to 60% and amenities are developed. During the community diversification phase, labour turnover stabilizes at 35%, and employment for wives becomes available. Labour and job mobility is lowest during the community maturity phase. Again, this model does not reflect the closures of some small towns due to economic restructuring, nor does it describe the alternative development paths that have emerged for some small towns.

In assessing the impacts of development, Freudenberg and Gramling (1994) provide a community development model to assess the impacts on the physical, cultural, social, political, economic, and psychological characteristics of a place (Table 8). In this model, three phases are outlined including *opportunity / threat*, *development / event*, and *adaptation / post-development*. Unlike some previous studies, the model highlights possible changes in property values due to speculation of investment prior to development. Also of interest, this framework highlights the potential impacts of inflation and family violence during community growth and development. As places adapt to change or experience challenges associated with post-development, there are large scale job losses and increases in bankruptcies. However, this framework poses a more simplistic view of the community phases of development. As noted earlier, community development can be more complex as a place can experience different characteristics during the construction and growth phases. Furthermore, this framework does not discuss community characteristics during more stable periods.

Table 8: Freudenberg's and Gramling's Framework for Assessing Impacts of OCS Development

Potential Impacts by Phase of Development			
System Affected	Opportunity - Threat	Development / Event	Adaptation / Post-Development
Physical	Anticipatory construction or lack of maintenance; decay of existing structures and facilities; new construction	Potentially massive alteration of the physical environment; destruction of old, and construction or upgrading of new / existing facilities	Loss of some uses due to the exploitation of others; deterioration of alternative productive facilities
Cultural	Initial contact; potential for loss of cultural continuity; threats to the legitimacy of existing institutions	Suspension of activities that assure cultural continuity, i.e. subsistence harvest; reduced effectiveness of traditional norms / sanctions	Gradual erosion of culture; loss of unique knowledge, skills, and / or perspectives; loss of cultural leaders, seeking jobs elsewhere
Social	Organization; investment of time, money, and energy for support or resistance; conflicts resulting from differential construction of risks	Population increases; influx of outsiders; decline in density of acquaintanceship; social change; formation of newcomer / old-timer cleavages	Alteration of human capital, through refocus on specialized skills with few other applications; losses of organizational skills and networks
Political / Legal	Litigation to promote or block proposed development; intensified lobbying; organized protests; potential 'civil disobedience' or even violence	Intrusion of development activity into community politics; litigation and conflict over activity impacts; decreasing capacity of community facilities and services	Recriminations over loss of earlier options and / or 'unexpectedly' short duration of boom-bust prosperity; zoning / regulatory changes in search of new development
Economic	Decline or increase in property values; speculation and investment; efforts to 'lock up' particularly promising parcels	Traditional boom-bust effects; inflation; entrance of 'outsiders' and national chains into local labor market and retail sector	Large-scale job loss and / or unemployment; loss of economically flexible businesses; increased bankruptcies, even in 'spin-off' sectors of economy
Psychological	Anxiety, stress, anger; gains or losses in perceived efficacy	Euphoria; stress associated with rapid growth; psychosocial pathology; family violence; losses or gains in efficacy	Depression and other problems associated with loss of employment; acquisition of potentially maladaptive coping strategies

Source: Freudenberg and Gramling (1994).

However, few community development models have been proposed for small towns that are not based on a resource extraction industry. Butler (1980) proposed a seven stage development model for tourism towns (Table 9). During the *exploration* stage, there are a small number of tourists restricted by lack of access, facilities, and local knowledge. Use of local facilities and contact with local residents is likely to be high, as is the case in the Canadian Arctic where tourists are attracted to natural and cultural-historical features (Butler 1980).

Table 9: Butler's Community Development Model for Tourism Towns
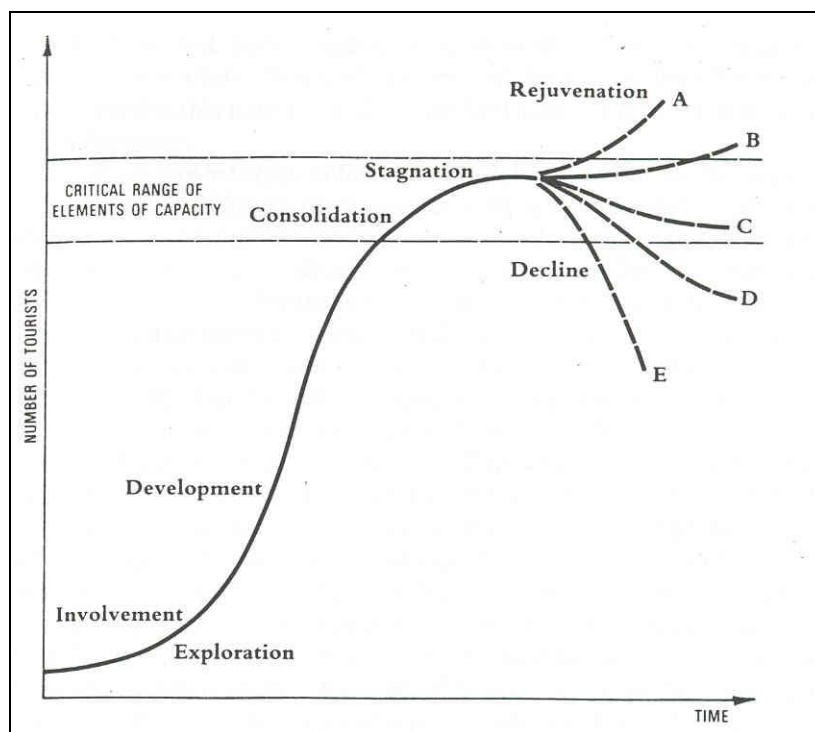
Source: Butler (1980).

During the *involvement* stage, the number of visitors increases and is accompanied by more regularity. Some local residents begin to become involved by providing facilities primarily or exclusively for visitors (Butler 1980). In the *development* stage, a well-defined tourist market area has developed, accompanied with heavy advertising in tourist-generating areas. As this stage progresses, local involvement and control of development will decline rapidly. Some local facilities will disappear being replaced with larger, modern facilities created by external organizations, particularly for visitor accommodation. During peak periods, the number of tourists may equal or exceed the local population. Imported labour may be utilized and auxiliary facilities for the tourist industry, such as laundry facilities, emerge. During the *consolidation* stage, the rate of increase in numbers of tourists declines, although the numbers will still increase. The total visitor numbers exceed the number of permanent residents and a major part of the area's economy will be connected with tourism. When the peak number of visitors is reached, the community has entered the *stagnation* stage. Capacity levels have been reached or exceeded, and are accompanied with environmental, social, and economic problems. Cottage resorts in Ontario have displayed these characteristics. During the *decline* stage, the area is not able to compete with newer attractions and experience a declining market. Property turnover is high and tourist facilities may be replaced by non-tourism related structures as the area moves out of tourism. Hotels may become condominiums or retirement homes, and the attraction of tourism areas make them equally attractive for permanent settlement, particularly for the elderly. However, rejuvenation may develop, although it is rare for this stage to develop without a complete change in the attractions on which tourism is based. For example, the village of Aviemore, Scotland was rejuvenated by developing a winter sports market, thus allowing the area to experience year-round tourism. While this model offers a detailed model tailored to the

unique developments of a tourism town, it does not describe the characteristics of tourism town during a stable or plateau period.

It is important to note that, depending upon the tourism activities, tourism communities can exhibit a range of characteristics during its development. For example, these places may either have a young-oriented population or an older oriented population (Gill 2000). As these communities develop, they tend to have a young, mobile workforce. It may also be characterized by female, part-time employment (Hall and Page 1999; Kessab *et al.* 1995).

In general, these community development models provide examples of measures which describe what is taking place in communities with varying economic activities. These measures, though, are not predictive in nature. They simply describe trends that are taking place.

4.3 Discussion

Early models of community development in small towns emerged before significant global economic restructuring and technological changes emerged. Revisions to these models have been made to reflect alternative development paths that may either lead to town closure, new economic development, or diversification. Regardless, these models are important because they demonstrate that small town places are not static, but demonstrate a variety of characteristics over time. Furthermore, the ability of small towns to embark on alternative development paths has been demonstrated to be partly influenced by their geographic setting of isolation or proximity to nearby places.

Early development models also focus primarily on resource communities and do not reflect the breadth of economic activity that can take place in rural and small town places. They do not cover the emergence, decline, or transformation of retirement communities, non-market service communities, or non-specialized communities. It is also important to note that it is difficult to comment upon the start up phases of agricultural communities since many of these places were settled prior to World War II (Robinson 1989; Zimmerman and Moneo 1971) at a time when gender employment and commuting opportunities were quite different. Similiar difficulties also exist for fishing communities that were settled throughout the 18th, 19th, and early 20th centuries (Sinclair 1992).

Drawing from a range of ideas in the literature, we recommend that the following categories or stages of economic activity be applied to understanding of the economic trajectory of small places:

- **Startup**. The process of starting a new community or of a community entering into a significantly different type of economic activity varies quite a bit from one type of community to the next. Fishing communities were established in the out ports of Newfoundland and Labrador centuries ago, at places which provided opportunity to dry fish on land. Mining communities were established much more recently in Northern Ontario, sometimes with a detailed plan in place before settlement, and sometimes in an ad hoc fashion as buildings and infrastructure grew up around a mineshaft. Not all types of communities begin with a start up phase. Communities may have reinvented

themselves as retirement communities by attracting people to live there. Communities, such as Elliot Lake, Ontario and Hamiota, Manitoba, may have reinvented themselves as retirement communities by attracting people to live there (Farkouh 1999; Everitt and Gill 1993).

- **Growth**. This is marked by a period of expansion of the physical boundaries (legal or otherwise) and / or population growth. The growth period may be very short or very long, depending upon the type of community and the local circumstances.

- **Plateau**. This stage is characterized by a period of relative stability in terms of economic activity. Again, this period may be very short or very long, depending upon the type of community and the local circumstances.

- **Decline**. This stage is characterized by a decline in the resource industry or activity which fueled the initial growth and sustained the plateau period (see Table 6 and Table 7 re: stages of development and recovery processes). This might be a depletion of the minerals, the withdrawal of the public service or institution, or the closure of the major employer for other reasons.

- **Alternative Futures**. After a period of stability, the community begins to change, usually as a result of a decline of the economic activity driving the community. The community enters one of the following transition stages:

  - Transform to some other economic activity and grow again. In this case the community responds to the decline by aggressively transforming its economy into other activities which place it in a growth stage again.

  - Transform to some other economic activity and plateau at a similar or lower level than before. In this case the community responds to the decline by transforming its economy into other activities, or by passively allowing the community to adopt a new primary economic activity by default, either of which provides a measure of stability or a plateau, but one which is at a lower level than that before the period of decline. Glace Bay is an example of a former mining community that became a dynamic services centre through call centre operations, and is at a lower plateau than before (McGee *et al.* 2002; Toughill 2001).

  - Transform to some other economic activity and decline more. In this case the community attempts to transform the economic activities into something else, but the efforts fail and a second period of decline ensues.

  - Remain in the same primary activity, but function at a lower plateau than before. In this case the period of decline occurs for a finite period of time and there is a leveling off of the decline and so the community 'settles in' to a period of stability or a plateau which is less prosperous or healthy compared to the period of stability before the decline occurred. For example, Zimmerman and Moneo (1971) note that some agricultural communities that survived the Depression in the 1930s

emerged to become 'farm cities' only to revert back to villages.

- Decommission or closure. The community, or an outside agency, makes the decision to close the community after a long, sustained period of decline. In some cases, the decision is made quickly in the case of very small communities where the nearly the entire workforce may be employed by a major employer which closes. Examples of small places that closed include Schefferville, Quebec and Bevan, B.C. (Everitt and Gill 1993; Archer and Bradbury1992; Clemenson 1992; Bradbury 1988).

It is important to note that communities sometimes move through different stages of economic activity, or move from one type of economic activity to another, without the community consciously making an effort to manage change (see Page and Beshiri, 2003; and the discussion in Section 8.0).

For the purposes of exploring this framework and identifying characteristics which will be helpful to explain or interpret the stage of local economic development, we will be looking at the four stages of startup, growth, plateau, and decline only. The variations in the alternative futures are many and there will be significant local differences and regional contexts which will make it impossible to separate the many nuances and contexts which shape the local situation(s). Instead, the possibilities surrounding 'alternative futures' will be further explored through case studies in Phase Four of this project.

5.0   Exploring Changes in Community Development with Socio-Economic Indicators

To examine the economic phases of rural and small town places, it is important to identify a set of characteristics that indicate change in phases in the economy, and secondly, characteristics that will indicate changes in the local population as they are impacted by changes in the local economy. Some research has previously used a range of indicators to cluster rural and small town regions (Hawkins 1995; Interdepartmental Committee on Rural and Remote Canada 1995; Cook and Mizer 1994). Other research has focused on more specific indicators to examine places of particular interest, such as places dependent on a specific resource sector. In all cases, these studies did not employ characteristics for exploring or explaining change over time. This section will explore a range of indicators and discuss their usefulness to examining changes in community development and housing demands.

5.1 Population Structure

Understanding the population structure of a place is key to projecting housing needs. There are a number of characteristics that depict the population structure of a place, such as population size, transience (migration), gender, marital status, and age composition. It is also important to examine changes occurring in these characteristics over time.

Changes in the demographic structure of small towns may differ according to town function. For example, resource-dependent towns mostly consist of small populations between 2,000 and 10,000 people (Gill 1990). However, populations can fluctuate, particularly during the construction phase of resource towns when these places are typically characterized by a large transient, single male, population (Halseth and Sullivan 2000; Reed 1995; Robinson 1962). After construction, such towns attract a young family oriented population (Halseth and Sullivan 2000; Reed 1995; Ofori-Amoah and Hayter 1989; Himelfarb 1976). These places tend to have fewer seniors compared to the provincial average (Riffel 1975; Jackson and Poushinsky 1971: 32). However, as some towns age, such as Flin Flon, Manitoba or Kitimat, B.C., they begin to exhibit mature population profiles with a growing number of seniors (Everitt and Gill 1993).

Small prairie towns have aging populations, while resort communities have seasonal residents who can bias census results with these second home residents potentially becoming permanent residents after retirement (Halseth 1998). "Recent years have seen steady growth of the retirement population and its preference for small-town life (Everitt and Gill 1993: 257)."

A number of studies have developed demographic indicators to explore rural and small town places. The Interdepartmental Committee on Rural and Remote Canada (1995) examined demographic characteristics of rural and small town places by examining population change and population age structure. The U.S. Department of Agriculture, Economic Research Service examined population structure by exploring characteristics including population numbers, population change, population increase and decrease, and population density (Cook and Mizer 1994). Hawkins (1995) explored demographic characteristics of small towns in Canada by examining age structure, population change, and migration by examining the percent of households who occupied the same dwelling five years ago. Hawkins (1995) 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, Hawkins subtracted residents over 65 years of age in 1991 from the population over 55 years of age in 1981. Bone (1998) focuses on changes in the population size of resource towns over the span of their existence. Population size was a particularly important indicator to examine because it provides an overall measure of economic and employment changes occurring in a resource town because of the relationship that exists between resource operations and the number of workers. Population size data is also available for all rural and small town places, which facilitates a longitudinal approach for examining change. However, these studies did not examine changes in these characteristics as a wide range of community types experience different phases of development.

Since gender composition of places has been indicated to change as places emerge from construction to operation to transition, it is important to tract gender changes. Robinson (1962) demonstrated dramatic differences for gender distribution between resource towns, the regions they are situated in, larger cities, and the province as a whole by examining sex ratios. Sex ratio was defined as the number of males to 100 females. For example, while the sex ratio was 251 in Kitimat, it was 157 for the region of Division 9, 97 for Vancouver, and 106 for the province as a whole. In Schefferville, Quebec, the sex ratio was 318, compared to 96 for Montreal, and 100 for the province of Quebec. Consequently, while previous clustering approaches did not examine gender in terms of population structure, Robinson (1962) provides an example of how gender could be included. Examining gender composition overall, including a breakdown of age composition of gender, as well as changes in gender could provide information about changes in community development. It is also important to examine changes in marital status as towns can consist of mostly single men during construction and then attract young families in the early operation of a place, and then consist of mature families later on.

However, there must be careful consideration in interpreting these characteristics over time. Hawkins (1995) points out that an aging population may not always indicate a declining population, particularly in small towns that continue to attract an in-migration of older residents. Another challenge in determining indicators of the local population structure is to identify changes in part-time residents that influence the 'social fabric' of a place, but are not enumerated in the census (Everitt and Gill 1993). Furthermore, examining population change through net-migration can be challenging as it is important to outline if net migration gains are due to increased in-migration or reduced out-migration. Such data can be difficult to determine at regional levels (OECD 1994).

5.2 Economic Structure

Changes in economic characteristics, such as employment, can indicate changes in community development as a place will develop a stable workforce as it matures or could have serious job losses during times of economic restructuring or industry closure. Employment indicators can also indicate the availability of opportunities and problems presented to different age and gender groups (FCM 2001).

Industry Characteristics

Resource-dependent communities have been the source of staples exports, such as lumber, pulp and paper, fish and farm products processing (Randall and Ironside 1996; Williamson and Annamraju 1996; Barnes and Hayter 1992; Bradbury 1988). Machlis *et al.* (1990) also explore small towns through resource production characteristics including the physical output of the resource (e.g. gold production, timber harvest); market value of the products (e.g. total mineral value, value of forest products); and employment in the industry. Unfortunately, territorially disaggregated production data is not available for many countries (OECD 1994).

Small towns, especially those dependent upon a resource sector, have also been influenced by such factors as the commodity market (Himelfarb 1976). Commodity prices are certainly an important characteristic to track. 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. Therefore, this study will not use any industry characteristics to explore development changes in small places.

Labour Force Employment, Sector Dependency, and Diversification

Another way to examine change in economic activity, and hence changes in development phases of rural and small town places, is to examine the proportion of the total labour force in each place that has remained in a particular sector over time. Randall and Ironside (1996) note that during restructuring periods, firms are more likely to make local labour-market changes rather than moving to a different labour market. Consequently, examining changes to employment will be important to track changes to local economic structures. Local dependence on natural resources has been examined through the proportion of employment or employment income generated through an economic sector (Stedman *et al.* 2004). Clemenson (1992) examined changes in the percentage of the labour force employed in fishing, mining, and forestry between 1981 and 1986 (Table 10). With the exception of fishing, employment declined in mining and forestry towns.

Table 10: Number of Study Communities by Percent of Labour Force Remaining in a Single Sector, Canada, 1981 and 1986

	Percent of labour force in a single sector		
	>30%	15-29%	<15%
38 Fishing communities 1981 1986	 33 34	 5 4	 0 0
54 Mining communities 1981 1986	 42 24	 11 22	 1 8
80 Wood-based communities 1981 1986	 52 37	 27 40	 1 3

Source: Clemenson (1992).

Clemenson (1992) also outlines four possible relationships between the labour force in a place with the labour force of a particular economic sector. For example, if the total labour force increases, while the single sector labour force declines, then the community diversified. If there is an increase in both the total labour force and the labour force of a particular single sector labour force, this may indicate either increased dependency on this resource or diversification. A decline in both the total labour force and the labour force of a single sector may indicate either increased dependency on a single sector or a change in the structure of the labour force. Finally, a decline in the total labour force with an increase in the single sector labour force indicates that these places have become more dependent on the single sector. Diversification is most likely to have occurred in places where the labour force has increased, while the labour force of a resource sector has decreased to less than 30% of the total labour force. This type of diversification has rarely happened in fishing or mining towns (Clemenson 1992).

Table 11: Sectoral dependency of nonmetro census divisions, Canada, 1986

	Dependency of nonmetro census divisions							
	Agriculture	Agriculture semi-dependent1	Agriculture semi-dependent2	Forestry	Mining	Fishing	Manufacturing	Government
Solely dependent	30	19	11	23	14	17	15	15
Dual dependency								
Agriculture	-	-	-	0	2	0	0	0
Agriculture semi-dependent 1	-	-	-	0	3	0	2	2
Agriculture semi-dependent 2	-	-	-	1	2	0	6	2
Forestry	0	0	1	-	1	0	0	1
Mining	2	3	2	1	-	2	0	2
Fishing	0	0	0	0	2	-	3	4
Manufacturing	0	2	6	0	0	3	-	0
Government	0	2	2	1	2	4	0	-

Source: Ehrensaft and Beeman (1992).

Ehrensaft and Beeman (1992) note that few nonmetro CDs have dual specialization (Table 11). 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).

Page and Beshiri (2003) use the Herfindahl Index of Concentration (HI) to provide another method for determining community economic diversification or specialization. This index equals the sum of the squared employment shares of each industrial sector in each community. A decline in the HI indicates lower levels of concentration in an industry or greater diversification. An increase in the HI indicates more concentration in the dominant industry or greater specialization. Page and Beshiri (2003) applied the Herfindahl Index to rural census divisions by examining changes in the workforce between 1986 and 1996 (Table 12).

Table 12: Changes in experienced labour force and Herfindahl Index of rural census consolidated subdivisions (CCS), Canada, 1986 to 1996
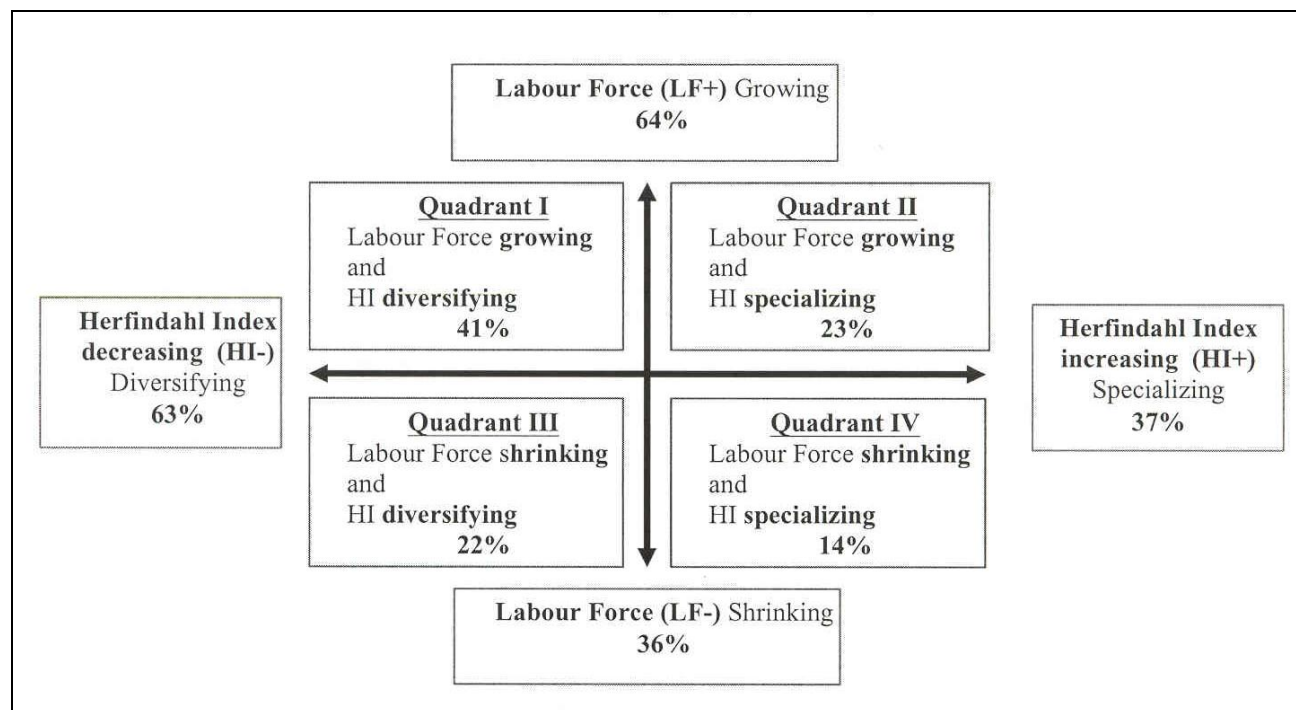
Source: Page and Beshiri (2003).

Quadrant I indicates small places with a growing workforce and a more diversified economy. This also identifies communities with a stable and robust economy due to economic diversification that is linked to higher product demands and exports from the community. The highest share of Quadrant I communities are located in the Northwest Territories and Nunavut, Ontario, and Alberta. Quadrant II indicates places with a growing workforce and a more specialized economy. Many Quadrant II communities are located in these provinces and territories, along with the Maritime Provinces, Quebec, and especially in B.C. Quadrant III identified places with a shrinking workforce and a more diversified economy. Many rural and small town places in Newfoundland and Labrador, Manitoba, and Saskatchewan were in Quadrant III. Finally, Quadrant IV identified places with a shrinking workforce and a more specialized economy (Page and Beshiri 2003). Most Quadrant IV places tended to be located in Newfoundland, Saskatchewan, and Nova Scotia (Page and Beshiri 2003). Overall, 41% of all rural and small town places examined had a growing labour force and a diversifying economy between 1986 and 1996 (Page and Beshiri 2003). In particular, small places dominated by agriculture and mining had experienced a growing labour force and a diversifying economy between 1986 and 1996 (Page and Beshiri 2003).

As noted in Phase II, Beshiri (2001) also 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. A location quotient higher than 100 indicates a high employment concentration in rural and small town places compared to the overall economy. However, changes in the LQ can indicate a number of things. For example, an increasing share of employment in an industrial sector could mean that an area is increasing its employment in the

industry. On the other hand, it could indicate that the rest of the country is decreasing its employment in the same industry or that employment is declining in another industry in the rural or small town place (Beshiri 2001). This can make the location quotient more difficult and complex to interpret in comparison with other characteristics when examining changes in small places over time.

Another characteristic of rural and small town places is 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. Therefore, unemployment rates are a less useful characteristic to use to indicate stages of decline in small places with company housing policies. 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 government transfers partly due to these higher unemployment rates (Rupnik *et al.* 2001).

Randall and Ironside (1996) note that employment in resource-dependent communities is male-dominated. There are limited employment opportunities in resource towns for women, particularly in the resource sector (Everitt and Gill 1993; Himelfarb 1976; Porteous 1976; Riffel 1975). Hawkins (1995) observed that 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). Women search for employment in the service sector where they find lower wages (Randall and Ironside 1996: 23). These jobs tend to be part-time and non-unionized (Gibson-Graham 1996; Krahn and Gartrell 1981). However, Everitt and Gill (1993) found that entrepreneurial activity has been increasing amongst women, particularly in the creation of small businesses. Furthermore, female participation in core mining and construction industries has been increasing slightly (Krahn and Gartrell 1981). Therefore, it is important to track changes not just in employment, but also changes in employment for both men and women.

However, Reed (n.d.) cautions that census definitions have not captured 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. Another challenge identified in examining employment as a characteristic is that categories of employment have changed over time. Furthermore, while trades have been an important occupation, particularly in resource towns, skilled occupation characteristics 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). For commuting purposes, Wilson (2004) further argues it is important to explore both the local and regional context of resource dependence

activity in order to understand the trends and impacts on rural and small town places. Commuting had important implications for how residents of White Pine, Viburnum, and surrounding places in Michigan experienced the boom and bust cycles associated with the mining industry (Wilson 2004). A greater concentration of the labour force led to greater dependence upon the mining industry, and thus, also a greater reliance on taxes, income, and jobs associated with the mine. However, proximity to large cities and interstate highways has allowed residents to find work outside of their county during boom and bust cycles.

Income

Changes in income have been an important characteristic through which to explore changes in community development. Resource towns, such as mining and oil and gas, typically offer higher incomes to attract workers and their families to 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. Changes in income levels amongst residents may indicate transition to other types of towns, such as tourism or retirement communities, that tend to have lower incomes (Hall and Page 1999). Furthermore, examining changes in transfer payments may help to identify rural and small town places 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). Such changes would need to be examined within the context of other characteristics to identify whether or not a place is simply declining or moving towards a retirement economy. However, as noted in Phase II, Hawkins (1995) expects that elderly in settlements attractive to retiring couples will have higher incomes than elderly people in settlements suffering population decline.

5.3 Services and Human Capital

Services can provide a foundation for not only attracting and retaining residents and businesses, but also to provide a foundation for rural revitalization and transition efforts as communities experience change. There are a wide range of services and infrastructure that support human development such as water, sewer, transportation, hospitals, libraries, schools, parks, shopping services, financial services, and voluntary groups. Some small towns, however, have been characterized by limited or inadequate services (Iverson and Maguire 2000). In examining the mining town of LaRonge, Saskatchewan, Riffel (1975) noted that reasons for turnover included inadequate services and facilities, including inadequate educational and medical services. Moreover, Himelfarb (1976) noted that many communities, particularly those with fewer than 10,000 people, have no doctor.

Single-industry towns have been noted to have many residents with low levels of education because of the accessibility of highly paid jobs that only require a minimum of on-the-job-training (Freudenberg and Gramling 1994). However, global restructuring and the installation of new technology in processing plants, for example, has required retraining for employees. Some small towns may provide adequate education up until the secondary school level, however; opportunities for retraining, apprenticeship programs, and other learning are very limited or non-existent (Himelfarb 1976; Riffel 1975). Often, post-secondary institutions are not within commuting distance. Consequently, with limited educational services, rural and small town

places may be characterized by youth out-migration for educational purposes or low levels of schooling (Bunce 1991).

Furthermore, as Fitchen (1995) notes, during times of economic and social restructuring, out-migration may increase rural poverty because those with the least amount of education and job skills tend to stay behind. In addition, urban to rural migration can also increase levels of rural poverty as people moving from urban to rural tend to be older, poorer, less educated, and less connected to the labour force. Over time, there is a net population loss from rural and small town areas and a net loss of human capital. Consequently, there are increased demands for services. Rural and small town places, though, tend to offer limited social support services, such as social workers and psychologists, to help families cope with social issues related to job loss, such as alcohol-related violence (Bunce 1991; Himelfarb 1976).

As such, examining employment changes in education and health, as well as the levels of schooling in a place, may provide an indication of the human capital and opportunities within a place. Furthermore, Hawkins (1995) used such indicators as percent of males and females with post secondary education, but acknowledged that service and service provision is one of the main data holes. While it is possible to identify teachers and doctors per capita based on census occupation data, other services are more difficult to identify. As these services play an important role in determining social well-being, the Interdepartmental Committee on Rural and Remote Canada (1995) examined service infrastructure by looking at the number of beds and physicians, the level of schooling, and housing. However, another possible way to examine monopolization of commercial services could be accomplished by examining the residential - commercial ratio used by Jones (1933) to explore tourism and mining towns. Regardless, issues of the quality of the services are unlikely to be addressed through such characteristics (Hawkins 1995).

5.4 Housing

Certain housing characteristics may also prove useful in exploring the stage of development of a place. For example, Bradbury (1984) notes that peaks and declines in housing demands parallel the development of the mining industry. During the construction period and operation of a mine, there is high housing demand. This demand declines during the restructuring of an industry or during the closure of a town. Furthermore, there will be changes in the types of housing pursued throughout the development of a community. As Kirby (1983) noted earlier, individuals during maturity and child bearing stages may be more likely to occupy rental flats or houses. This may imply that since there is high turnover and attraction of single individuals and young families during the early stages of a place, there may be higher rental occupancy. As a community matures with more families with children, there would be an increase in demand for owned dwellings. But these assumptions will also be impacted by the resources that people have, as well as if a community is a company town or an instant town where there may be few rental options (Gibson-Graham 1996; Porteous 1976). For example, residents in the service sector have had problems purchasing homes in these places because they are ineligible to purchase company housing. Furthermore, women's access to company housing can be impacted if her relationship to a company employee ends (Gibson-Graham 1996). Historically, companies have evolved from renting company owned housing to "the use of financial subsidies (such as interest-free second mortgages) to assist employees to purchase homes on the open market, and many

companies have had to introduce buy-back policies to encourage house purchase (Everitt and Gill 1993: 260)."

5.5 Discussion

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) make an important distinction that while individual communities within a region are often highly specialized in one sector, the regions, representing many places, end up being diversified and depend on a range of resources and manufacturing sectors, such as agriculture, forestry, mining, fishing, government, and manufacturing. The potential economic futures of a place are a consequence not only of internal characteristics, but also of regional factors and trends. It will be important for decision makers and those interested in policy to not only consider such places, but also the region within which they are situated. The strength of a clustering approach is that it can situate change within both a local and regional context. Therefore, it will be necessary to compare economic sectors across both CSDs (local places) and CDs (regional setting).

Past clustering methods have not used predictive indicators to capture change in the economic and social restructuring of small towns as they change over time. Some of the indicators identified in the literature review will be applied within the theoretical framework. In addition, other indicators, such as gender and marital status will be explored to determine their applicability in the proposed framework. Consequently, new indicators, such as gender and marital status, have been included that were not available in past approaches.

A limitation of using data for any of these characteristics may occur when a town emerges or changes during or shortly after a census. In the early stages of a community development model, the town may be too small to reveal socio-demographic characteristics. There also may be long periods over which a community may be within a single stage. On the other hand, other places may go through a number of stages between two census periods. Furthermore, time lags mean that trigger events may not show their implications for a period of time. For example, Wilson (2004) notes that the impacts of boom and bust cycles in mining towns will differ by mineral and often lag behind many years. One possibility for filling census time gaps could be the use of small area tax filer data (available on an annual basis, two years after the current year).

The characteristics associated with varying economic activities may also change over time (Stedman *et al.* 2004). As noted earlier, while women have not traditionally found employment in resource towns, particularly in resource industries, this has been changing (Everitt and Gill 1993; Krahn and Gartrell 1981). Characteristics associated with agricultural communities may also vary according to farm size, structure, and region (Stedman *et al.* 2004). Within manufacturing communities, characteristics may differ according to the product produced, such as places producing wood products such as veneer, construction wood, pulp and paper, or wood chips. Even in fishing communities, characteristics may be influenced by market niches for Pacific versus Atlantic salmon (Peluso *et al.* 1994).

It is important to note, as well, that the framework for this study was grounded in the 2001 Census. Therefore, some communities may have been fewer than 5,000 people in the past and may have grown beyond our upper threshold of 4,999 to be included in this framework. Likewise, some communities may have consisted of more than 49 people in the past and may have declined in population to below 50 and are also excluded from this demonstration. Furthermore, it was not possible to include certain communities or unincorporated places that have been amalgamated over time.

In an effort to determine if it is possible to 'measure' the changes in economic development activity of a given community over time, we now turn our attention to the identification of potential socio-economic and other quantifiable characteristics that might be helpful. Our review of the literature provides some suggestions about which characteristics, and how they change over time, offer clues about the impact of changes to the economic structure and activities of communities. In particular, the following characteristics which are captured in each Census offer some potential to assess where a community is at in its economic development trajectory, and the possible future direction it might be headed:

Population
- population
- population age structure
  - % population age 0-14
  - % population age 15-24
  - % population age 25-54
  - % population age 55-64
  - % population age 65 and over
- % population that is male (sex ratio)

Households
- household type
  - % families which are lone parents
  - % households which are one person non-family households
- % families with children at home (married or common-law families and lone parent families)
- youth dependency ratio (ratio of population age 0-14 to population age 15-64)
- elderly dependency (ratio of population age 65 and over to population age 15-64)

Migration
- in-migration, last five years (% population who moved into the community in the five years prior to the census)
- out-migration of youth 15-24 (% change in population age 25-34 in Census Year B (e.g., 2001) and population age 15-24 in Census Year A (e.g., 1991))

Income
- % of total income from employment
- % of total income from government transfers

- % of total income from other sources

Labour Force Activity
- % labour force in employed in each major economic sector
- labour force participation rate
  - labour force participation rate age 15-24
  - labour force participation rate age 25 and over
  - labour force participation rate of females age 15 and over
- % of the labour force working outside of community (outside of the census subdivision)

Housing
- housing completions in last 5 years (% of all dwellings completed in the five years prior to the census)
- average value of dwelling

Our review of the literature also suggests that there are additional characteristics (or 'characteristics') which might also be potentially useful to assess where a community is at in its economic development trajectory, and the possible future direction it might be headed. These would be locally available or non-census data. From an analytical point of view, these are difficult to collect and analyze for multiple communities for a variety of reasons, including: it would be time consuming to collect for the large number of communities involved in our study; the data may not be available in some communities; the data may not be collected in the same way or available in the same format for all communities; and, some of the data may require the user to purchase it from the supplier of the data. These non-census characteristics include but are not limited to the following:

- business starts
- business closures
- business bankruptcies
- personal bankruptcies
- size of property tax assessment base (industrial, commercial, and residential)
- annual capital expenditure on new municipal infrastructure
- ownership of businesses (local or external)
- commodity prices
- production levels
- off-farm income
- MLS sales volume
- MLS average sale price
- MLS number of listings
- others as locally appropriate.

For the purpose of this study, we focus only on an analysis of the census characteristics and their relative value and power to explain the stage of economic development activity for communities. As noted above, the problems associated with the availability of other potential characteristics means that an analysis of these characteristics must be left to additional research beyond the

scope of this study. The balance of this report is devoted to an exploration of the socio-economic characteristics in the census to determine if and how they might be used to 'populate' the framework we have developed for understanding how communities move through various stages of economic development activity over time.

6.0 Analysis of Socio-Economic Characteristics to Indicate Stage of Economic Development

The purpose of this section is to explore the potential of a variety of socio-economic characteristics from the census to identify changes in the economic development activity of rural and small town places in Canada over time. We begin with a review of the proposed framework. We then proceed with an analysis of the characteristics by focusing on their values (as reported in the Census) in both 1991 and 2001, in the context of the framework itself.

6.1 The Proposed Framework

The framework developed from our review of the literature, includes the following categories or stages of economic development activity for small communities in relatively isolated rural places in Canada:

- Startup
- Growth
- Plateau
- Decline
- Alternative Futures
    - Transform to some other economic activity and grow again
    - Transform to some other economic activity and plateau at a similar or lower level than before
    - Transform to some other economic activity and decline more
    - Remain in the same primary activity, but function at a lower plateau than before
    - Decommission or closure

Our review of the literature (Apedaile 2004; Freshwater 2004; Wilson 2004; Bruce 2003; Halseth and Ryser 2002; Beshiri 2001; Farkouh 1999; Everitt and Gill 1993; Mavrinac 1992; Sinclair 1992; Robinson 1990) suggests that most communities in relatively isolated rural and small town places in Canada (especially those that were once or currently are dependent upon natural resources as their economic base) are in one of the three stages noted below:

- a long run period of decline (collectively, but for some specific communities this period of decline may be relatively short);
- a period of transition to an alternative future (this may be on a pro-active basis, in an attempt to redefine the community and its future, or it may be on a passive basis, waiting to see how the situation unfolds); or
- having moved into an alternative future (either recently or some time ago).

There are virtually no new 'instant communities' or communities at a start-up phase today. For

example, most new developments involving mineral exploration and extraction involve 'fly-in and fly-out' type of commuting. This is being done to avoid the expensive infrastructure costs of building a community. In a similar way, few of the relatively small and isolated rural and small town places are experiencing growth. Most were settled many years ago. Others may have been more recently settled, such as Tumbler Ridge in the mid-1980s. But the initial growth and expansion phases have long since passed and communities have matured. As noted above, most have moved beyond a period of relatively stability.

The last 15 to 20 years have seen declines as communities have aged, technology has advanced requiring fewer people to produce more, and improved transportation networks have made it easier for people to choose to live, work, shop, and play in a variety of locations. Furthermore, the exposure of many communities to changes in the global economy (increased competition from other countries that produce similar products, loss of markets, price changes for resources and commodities, industrial restructuring) coupled with declines in natural resource availability (depletion of mines, loss of farmland, collapse of fish stocks) has resulted in an erosion of stability in many of these rural and small town places.

Table 13: Summary of Rural and Small Town Places in Decline, Population Changes for all Communities with 1991 Population of 50 - 4,999, 1991-2001

Category	Total Lost	%	Total Gained	%	n=
All communities	954	71.0%	388	29.0%	1342
All communities with 2001 population of 100 to 2,499	814	71.5%	325	28.5%	1139
All communities with 2001 population of 2,500 to 4,999	72	63.7%	41	36.3%	113
Communities with Weak MIZ	526	69.4	232	30.6	758
Communities with No MIZ	360	72.9	134	27.1	494
Agricultural communities	236	84.9%	42	15.1%	278
Fishing communities	21	95.5%	1	4.5%	22
Forestry communities	9	69.2%	4	30.8%	13
Mining communities	23	88.5%	3	11.5%	26
Tourism communities	6	50.0%	6	50.0%	12
Manufacturing communities	90	80.4%	22	19.6%	112
Dynamic communities	27	54.0%	23	46.0%	50
Non-market communities	143	54.0%	122	46.0%	265
Retirement communities	30	71.4%	12	28.6%	42
Dual specialization communities	217	72.8%	81	27.2%	298
Non-specialized communities	144	65.2%	77	34.8%	221

Source: Statistics Canada 2001; 1991.

If we focus on population change as a measure of decline, most of the rural and small town places in this study are declining. There are very few instances where new communities are being established. This trend is evident regardless of the size of place examined, the degree of metropolitan influence, or the economic sector of a place. For example, only about 27% of the No MIZ communities grew in population, and only about 31% of the Weak MIZ communities grew between 1991 and 2001.

Thus, the contemporary value of a framework showing the economic development activity trajectory of communities is highest in terms of developing an understanding of the indicators of movement into and through a period of decline, and in understanding the various local and contextual conditions which might shape the alternative future of a community after a period of decline. For this reason, we focus our analysis on the potential of the socio-economic characteristics for helping to explain the stages of economic development through the decline period. We ask the fundamental question: How can changes in various social and economic characteristics of communities be used to understand if a community is in a period of decline, and what its alternative future might be?

While the focus of our analysis is on one aspect of the framework - the period of decline into an alternative future - and before we examine this aspect in more detail for the balance of the report, it is important to briefly note some aspects of the other components of the framework. The startup and growth phases of small communities in relatively isolated places is indicated or marked more by evidence 'on the ground' than by changes in social and economic characteristics. By this we mean that there are significant changes to the physical landscape and the built environment as a community is established and developed. As communities move out of a Startup period and into Growth or finding a relatively stable Plateau, the evidence or indicators typically include both physical and socio-economic indicators[1].

Communities in a Startup stage have some distinguishing features. The municipal charter establishing the settlement as a municipality would have been recently granted. There would be evidence of new construction of buildings and municipal infrastructure (water supply and sewerage, roads and streets, municipal administration and service buildings, houses and other residential buildings). There would also be evidence of planned for, but undeveloped land, within the municipality, included building lots for sale, signage indicating 'future development', and much more. Basic, essential services would also be established in the early part of the Startup period. The number and type of these will depend on the community size and its location relative to other communities. These services may include medical care facilities, schools, protective services, and other community services.

Communities in a Growth stage will show a range of possible physical indicators. New business developments in the community, such as retail stores in the downtown core or an expansion of new retail areas (such as highway commercial development), are possible. A business or industrial park could be developed or be nearing capacity if one was built immediately during the Startup stage. Expansion of municipal boundaries may be another indicator of growth. Sustained population and/or household growth over a long period of time, and a high pace of building starts for all types of structures are other features. Some of the essential services which were noted in the Startup stage may be expanded, depending on the size, location, and pace of growth.

As a community moves into a Plateau stage, there are fewer physical signs of change. There are fewer new buildings constructed, services peak in terms of the volume of activity and staffing,

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[1] The tables in Appendix C also provide some suggested socio-economic characteristics of communities in periods of growth and plateau. However, we have not completed a detailed statistically analysis of the data for these stages of economic activity. Instead, the suggestions are drawn from the literature review only.

and there is a slow by progressive aging/maturing of the population.

6.2 The Socio-Economic Characteristics

We now return to our detailed analysis of the potential socio-economic characteristics which might indicate a period of decline and movement into an alternative future for the community. In order to assess the usefulness of the socio-economic characteristic identified in the literature, we move through a series of descriptive analysis looking at the census data from 1991 and 2001.

Tables A1-A6 (found in Appendix A) summarize the characteristics of the identified census characteristics in 1991 and 2001 for the census subdivisions identified in Phases One and Two of this project[2]. We choose this period of time for two primary reasons. The first is the availability of a wide range of census data in electronic format that is relatively easy to pull together into a database. Going back further in time presents data availability limitations. The second is that the 1990s were a period of significant economic change for many rural communities and small towns (as noted in section 6.1).

Table A-1 summarizes the 'status' or 'measure' of each of these characteristics in 1991 and in 2001 for all communities with a population of 50 to 4,999 and with either a Weak or No MIZ status. The summary data shows that there is great variability from community to community, with extreme minimum and maximum values, and in many cases, relatively large standard deviation[3] values relative to their means. This high variability feature is found in both 1991 and 2001.

It is important to note, however, that communities with a very small population can have a major impact on means or averages within a larger group of communities. In this case, this is primarily due to the reporting practices of Statistics Canada, which include data rounding (up or down to the nearest '5'), and data suppression (if there are not enough cases to have at least '5' for a particular characteristic). When we remove the 90 communities with a 1991 population of 50 to 99, we find that there is some normalizing of the means (i.e., a smaller standard deviation for most characteristics, and generally fewer characteristics with higher or extreme standard deviation values). Table A-2 summarizes the 'status' or 'measure' of each of these characteristics in 1991 and in 2001 for all communities with a population of 100 to 4,999 and with either a Weak or No MIZ status.

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[2]For the purpose of summarizing the characteristics and for further analysis in this report, we only include those census subdivisions with constant boundaries between 1991 and 2001. For example, if there was an amalgamation sometime between 1991 and 2001 of two or more CSDs which were in the 1991 database, these were dropped for the purpose of making comparisons. This affected some CSDs in most provinces, especially in Ontario. In other cases there were revisions of CSD boundaries for administrative purposes. This was especially the case in British Columbia where the boundaries of many of the unincorporated "subregions" of regional districts were reorganized. Consequently, 90 CSDs were dropped from the analysis.

[3]The standard deviation is the square root of the variance and it is used most often to describe variability. A larger standard deviation relative to the value of the mean indicates that there is a large variance in the data from one case to the next, while a smaller standard deviation relative to the value of the mean indicates less variance in the data.

It is also important to note that there are few differences between smaller and larger communities within the 100 to 4,999 population cluster, in terms of the mean or average for each characteristic. There is also relatively little difference shown with respect to the fact that both groups exhibit the same patterns of relatively high standard deviations for each characteristic (notwithstanding the 'normalization'; due to the removal of the smallest communities), again suggesting that there is a great deal of uniqueness among communities. Table A-3 summarizes the 'status' or 'measure' of each of these characteristics in 1991 communities in the population clusters of 100 to 2,499 and 2,500 to 4,999 and with either a Weak or No MIZ status. The characteristics are very similar in both population clusters. However, smaller communities tended to have more people age 65 and over, higher dependency ratios, more people working in agriculture, and more people commuting outside the community for work. Larger communities tend to have more in-migration to the community, more employment income, higher rates of labour force participation, and higher average dwelling values.

Table A-4 summarizes each of the characteristics in 2001 for communities in the population clusters of 100 to 2,499 and 2,500 to 4,999 and with either a Weak or No MIZ status. The characteristics are very similar in both population clusters, and compared to 1991, there were even fewer characteristics where there were points of dissimilarity in the values between the population groups. However, the same pattern of relatively large standard deviation scores holds.

In a similar way, it is important to note that there are very few differences between Weak and No MIZ communities within the 100 to 4,999 population cluster. Table A-5 summarizes each of the characteristics in 1991 for communities with a population of 100 to 4,999 based on their Weak and No MIZ status. Weak MIZ communities had higher employment income, higher labour force participation rates, and higher average dwelling values compared to No MIZ communities.

Table A-6 summarizes each of the characteristics in 2001 for communities with a population of 100 to 4,999 based on their Weak and No MIZ status. A similar pattern emerges with very few differences between the two types of communities.

To summarize, we can conclude that these characteristics hold some potential for helping to identify if a community is in a period of decline because of their importance in the literature, and because they are applicable across a variety of community sizes and types (they showed relatively few differences between clusters of 100 - 2,499 and 2,500 - 4,999 population, and between those with Weak MIZ and No MIZ status). However, we have some reservations about their collective potential at this point for two reasons.

The first is that all of the communities included in the 1991 - 2001 time series were chosen based on their population (less than 5,000) and isolation (Weak or No MIZ status) features only. While the literature suggests that most of these places were in a period of decline in the 1990s, there were some which were stable, and some which grew. Thus the values and the variability we uncovered are not necessarily just for communities in decline, but they are influenced by communities in other stages of economic development activity. Thus, **the descriptive data by themselves** are not particularly helpful.

The second relates to **the high degree of variability within each characteristic**. The nature and distribution of the socio-economic characteristics is not surprising. Other research has demonstrated that most rural and small town places are unique and different from one another, even if they have the same economic activity as its primary driver of the local economy. Ehrensaft and Beeman (1992) refer to this as 'macro-diversity and micro-specialization' among rural and small town places. In other words, they stress the importance that one cannot simply lump all or most of the places together and say that they share the same characteristics and features. On a national scale, they found that there was a great deal of diversity in the economic activities of rural and small town places across the country. They also found that even within clusters of similar types of economic activity (for example, within all fishing communities) there was a degree of 'micro-specialization', in that individual fishing communities were in fact different from one another. These differences might be based on the species of fish caught and processed locally, the range of other economic activity happening in the community, and so on.

Randall and Ironside (1996) also identified this differentiation in their study of primary industry communities in rural Canada. They noted, for example, that within all forestry dependent communities, the degree of dependence varied based on the share of the community labour force employed in the sector, that there were different 'mixes' of other economic activity occurring locally, and that the degree of geographic isolation (road distance from a large urban centre) was also quite variable. These features then suggest that a range of socio-economic descriptive characteristics would likely be quite variable as well.

Despite these concerns and limitations, however, we are confident that the characteristics themselves are important in the context of understanding a community in decline. We now turn to a refinement of the analysis, and examine the **changes** in the values of these characteristics in the 1991-2001 period. This is the focus on Section 7.0. We then turn to examine changes in these characteristics for each of the economic sectors in Section 8.0. In Section 9.0 we return to our proposed framework and assess the relative explanatory power of the socio-economic characteristics in the context of determining if a community is in a period of decline.

7.0   Change in Socio-Economic Characteristics as Indicators of Community Decline

In this section we examine the relative changes in the socio-economic characteristics and their values, which hold some potential for identifying if a community is in a period of decline. From the discussion in the previous section, it is clear that while the characteristics are potentially important, they have some limitations. Here we test the characteristics to see if there are some clear patterns or changes which might be useful for determining if a community is in a period of decline.

Our reference point for this analysis is 2001, and we look back over 10 years to see what has changed in rural and small town places in terms of the value and direction (increase or decrease in value) of the characteristics we have identified. In this section we only look at communities that are experiencing decline in our study (as indicated by population change in Table 13) and in Section 8.0 we look at how these rural and small town places have changed for each economic sector (i.e. agricultural communities, fishing communities, etc.).

Table A-7 shows the average or mean change in percent from 1991-2001 for each of the socio-economic characteristics from the census identified in Section 5.0, for all of the communities in decline between 100 and 4,999 population, regardless of economic sector and regardless of Weak or No MIZ status. Not surprisingly, we see a great deal of variability in the change in percent value in virtually every characteristic - suggesting that most places are unique and have their own particular patterns of change. This is supported by the extreme minimum and maximum values, and the high standard deviation values (for most characteristics) relative to their means.

Another striking feature is that there are some characteristics which have changed significantly over a ten-year period, and many others which have not. Collectively, there has been a 18.1% decline in population, a decline in the percent of the population age 0-14, a decline in the youth dependency ratio, a decline in the labour force participation rate among those age 15-24, and a decline in the share of dwellings built in the previous five years compared to that of ten years ago (implies relatively fewer new housing starts).

Table A-8 shows the mean change in percent from 1991-2001 for each of the socio-economic characteristics from the census identified in Section 5.0, for all declining communities between 100 and 2,499, and between 2,500 and 4,999 population, regardless of economic sector and regardless of Weak or No MIZ status. There are almost no differences in the change in percent value for most characteristics when comparing the smaller and larger population clusters. However, there are a few differences, including that smaller communities have had a larger population decline, a decline in the percent of families with children, a larger decline in the youth dependency ratio, and a larger decline in labour force participation rates for those between 15-24 years of age. Larger communities had a larger decline in overall labour force participation rate and that of the female labour force, a larger decline in the share of the workforce commuting outside the community, and a higher increase in average dwelling value.

Table A-9 shows the change in percent from 1991-2001 for each of the socio-economic characteristics from the census identified in Section 5.0, for declining communities between 100 and 4,999, sorted into Weak and No MIZ status, regardless of economic sector. There are even fewer differences between these two community clusters compared to those based on population size. Weak MIZ communities had a marginal increase in share of income from employment and from government transfer payments, and an increase in average dwelling value. No MIZ communities had a larger decline in labour force participation rates for people age 15-24, but an increase for female labour force participation rates.

To summarize, our analysis clearly shows that there is a high degree of variability (in terms of the minimum and maximum values and the standard deviation) for the **change** in the value of each of the socio-economic characteristics between 1991 and 2001. When we combine this with our findings in the literature about the high degree of diversity of small communities in isolated rural and small town places in Canada (even among those with similar economic activity), it suggests that it is not useful nor possible to define or establish thresholds for each characteristic which point to a period of decline in a community. An average income, for example, in one mining community may be different than in another. Labour force participation rates may be quite different in communities with similar economic activities, and thus as they move from one

stage of economic development to the next, the 'thresholds' are likely to be quite different.

For most of the socio-economic characteristics we examined, there appeared to be a reasonably clear '**direction of change**'. In other words, most characteristics showed a specific pattern of either increasing or decreasing. There were some for which the mean value of change was close to zero. We therefore feel that it is important to look in more detail at the directionality of each characteristic within each economic sector, to determine if there are more strong indications or signals about the characteristics of a community in decline. For example, for some of the characteristics where the mean value of change might have been very close to zero, it might be more strongly positive or negative within one or more specific economic sectors. This idea of examining the directionality of a characteristic is supported by previous studies of specific types of rural communities (such as forestry or mining), which describe the nature of change and its impact on a variety of socio-economic descriptive characteristics, such as incomes, employment rates, and more. We now turn to this examination within each economic sector in Section 8.0.

8.0   Indicators of Decline for Each Economic Sector

In this section we examine how the socio-economic characteristics changed for declining communities in each of the eleven types of economic sectors, between 1991 and 2001, to determine if there are any useful indicators of decline specific to certain types of economic sectors. For the purpose of our analysis for this section, we begin with the 1991 economic sector classification of each community, and look forward ten years later to see how these communities have changed over time. We include only those communities which experienced population decline in this period.

The literature identifies that not all communities maintain the same dominant economic sector over time. Most of these studies have examined this issue in the context of developing an understanding of whether or not communities (or certain types of communities) diversify their economy over time, and what conditions have led to that diversification (Page and Beshiri 2001; Randall and Ironside 1996; Clemenson 1992). Some will see a decrease in labour force activity in a given sector and a rise in another, resulting in a reclassification to another type of economic sector. There may also be movements within the labour force activity which result in a community becoming more or less specialized (and thus potentially being reclassified as a dual specialization or non-specialized community, depending on the shifts in the local labour force). This complexity makes it difficult to examine whether or not a community is in a period of decline, and the nature of its alternative future.

We explore this reality briefly by examining how many and what types of communities have changed between 1991 and 2001 in terms of their economic sector classification under the methodology employed in Phase II of this work. The Standard Industrial Classifications (SIC) of the labour force in each community were examined, and if a community had 25% or more of its labour force in a given sector (such as agriculture), it was characterized as being that type of community, in this example, an agricultural community. If there were two sectors where the employment was at least 25% of the labour force, it was classified as dual specialization. If there were no sectors where the employment was at least 25% of the labour force, it was classified as non-specialized. If a community had at least 25% of its population age 65 and over, it was

classified as a retirement community.

These changes among the communities in our study are summarized in Table 14. Slightly more than half of the declining communities - 496 of the 952 in the sample - had the same classification in 1991 and 2001, indicating that there was a reasonable measure of stability in those communities in terms of a continued dominance of a single sector, the same two sectors, or no prominent sector. However, there may have been changes in the share of the labour force employed in the various sectors (or percent of the population age 65 and over), but not enough to move above or below the 25% threshold. Furthermore, there may have been some reclassification or movement over the 10-year period, but not at the specific end points of 1991 and 2001. For example, a forestry community may have had a decrease in the share of employment in forestry to a point below 25% at some time between 1991 and 2001, but by 2001 it may have been back to 25% or more of the labour force. More agricultural, non-market services, and manufacturing communities exhibited this measure of stability.

Table 14: Change in Economic Sector Classification, 1991 to 2001, Communities with Population Loss 1991-2001

Type	Number of Communities in 1991	Number With Same Economic Sector in 2001	Number Classified as Dual Specialization in 2001	Number Classified as Non-Specialized in 2001	Number Classified as Another Sector in 2001
Agriculture	242	192	27	8	15
Fishing	21	3	3	2	13
Forestry	9	1	2	1	5
Mining	23	10	5	3	5
Tourism	6	1	3	0	2
Manufacturing	90	36	20	9	25
Dynamic Services	27	6	8	2	11
Non-Market Services	143	76	26	20	21
Retirement	30	4	24	1	1
Dual Specialization	217	126	N/A	14	77
Non-Specialized	144	41	30	N/A	73
Total	**952**	**496**	**148**	**60**	**248**

Note - based on 25% of Labour Force employed in sector in 1991 compared to classification based on 25% of Labour Force employed in sector in 2001

However, almost 150 had become dual specialization communities over the ten year period - suggesting perhaps some measure of growth or some other form of stability occurring, as another sector employed at least 25% of the labour force (or 25% of the population was now age 65 and over). Although, another possibility is that dual specialization may be produced through economic decline. Notably, employment in a dominant sector may have declined to the point where it is now equal to another economic sector that had previously employed fewer people. Furthermore, 60 rural and small town places became non-specialized. This could have occurred as the local economy became more diverse, thus resulting in fewer than 25% being employed in any sector, or that the economy worsened and the employment in the leading sector declined. About 250 communities had a completely different single sector classification by 2001. Most of these were dual specialization communities becoming specialized in only one sector, or non-specialized communities becoming specialized in one sector. Again, there are a variety of

explanations for these changes, ranging from employment gains to employment losses.

The key findings from this analysis are:
- some communities have change in economic sector classification over time, while others have the same economic sector classification;
- the changes could be due to a variety of factors;
- some of the communities may be in a period of decline, but still have the same economic sector classification; and
- some of the communities may be in a period of alternative futures, shifting to a new economic sector or a more diversified or a more specialized economy.

Appendix B provides a summary of these characteristics for each of the eleven economic sectors, showing the change in the percent value of each of the characteristics identified, between 1991 and 2001. In short, there are some very important differences in the magnitude of change in the value of the characteristics over time, among the different types of communities. For example:

- mining communities experienced an average 55% decline in population, while non-specialized communities experienced an average decline of 14.5%;
- tourism communities experienced an average decline of 7.2% in the share of population age 0-14, while retirement communities experienced a decline of 2.3%;
- tourism communities experienced an average increase of 13.2% in the share of population age 65 and over, while dual specialization communities experienced an increase of 0.8%;
- tourism communities experienced an average increase of 8.9% in the percent of households which are one-person households , while agricultural communities experienced an increase of 3.0%;
- fishing and tourism communities experienced an average decline of 10.3% in the youth dependency ratio, while retirement communities experienced a decline of 4.2%;
- mining communities experienced an average decline of 8.5% in the share of income from employment, while tourism communities experienced an increase of 10.4%;
- fishing communities experienced an average decline of 6.0% in the labour force participation rates among all in the labour force, while tourism communities experienced an increase of 8.1%; and
- dual specialization communities experienced an average increase of $2,763 in the average dwelling value, while tourism communities experienced an average increase of $14,926.

These variations in magnitude and directionality underscore the fact that individual communities, and that different types of communities based on their employment share in a dominant sector, are different from each other in terms of changes in socio-economic conditions over time.

As suggested at the end of Section 7.0, we feel there is significant and meaningful use in examining whether or not a characteristic is increasing, decreasing, or remaining relatively stable (the direction), through a period of decline, for each sector. When we examine the magnitude and direction of each characteristic in the eleven different sectors, we do find some differences (as noted in the bullet list above). These differences suggest that it is important for policy and program analysts to understand the type of community (based on its economic activity defined

by the percentage of the labour force employed in each sector) before passing judgement or making decisions about the future economic trajectory of a community.

To move the analysis further, we now look at the direction of change for each characteristic for each economic sector, under the assumption that most of the communities in each sector are in a period of decline from 1991 to 2001. Tables C-1 to C-11 in Appendix C, provide detailed summaries of the direction of change for each characteristic, for each sector[4]. What we conclude from completing this analysis is that there is a different 'mix' of characteristics which are increasing, and those which are decreasing, over time, which characterize the nature of decline in one particular type of community compared to another.

Notably, when comparing agricultural and manufacturing communities, most characteristics exhibit the same pattern. However, in declining agricultural communities, for example, labour force participation rates for females and the percentage of those commuting outside the CSD increase over time while they decrease over time in declining manufacturing communities.

Overall, a number of characteristics have been **increasing** in all of the eleven sectors with declining communities. These include:
- % lone-parent families,
- % one-person households,
- % population 45-64,
- % population 65 and over, and
- change in average dwelling value ($).

A number of characteristics have been **decreasing** in all of the eleven sectors with declining communities.
- % population change,
- % population 0-14,
- % population 25-44,
- youth dependency ratio,
- % youth out-migration,
- % employed in a given sector (except retirement communities),
- labour force participation rate 15-24 years of age, and

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[4]It is very important to note that not all communities maintain the same dominant economic sector over time. Some will see a decrease in labour force activity in a given sector and a rise in another, resulting in a reclassification to another type of economic sector from census period to the next. There may also be movements within the labour force activity which result in a community becoming more or less specialized (and thus potentially being reclassified as a dual specialization or non-specialized community, depending on the shifts in the local labour force) This combination of factors, which may lead a community to become more specialized or less specialized, was discussed early, and is summarized in a larger analytical paper on this issue for rural Canada (Page and Beshiri, 2003). It is also important to note that economic specialization is not equivalent to economic diversification. The former is an expansion of the community's employment share in a dominant industry or sector, while the latter is from the introduction of a new industry or an expansion of employment in an existing industry other than the single or dominant industry. Conversely, specialization may be achieved because of loss of employment in sectors or industries other than the single or dominant industry - this would be harmful to the health of the local economy. The change in classification of communities over a 10-year period from 1991 to 2001 for the communities in our study is summarized in Table 14.

- % built during the last five years.

A number of characteristics have been **increasing** for certain types of rural and small town places. These include the following:

- % population 15-24 has been increasing for agricultural and dynamic services communities,
- % of families with children has been increasing for tourism communities and non-market communities,
- % employment income has been increasing for forestry, tourism, dynamic services, retirement, and dual specialization communities,
- % government transfer has been increasing for agricultural, mining, tourism, manufacturing, and dual specialization communities,
- % other income has been increasing for fishing, mining, tourism, manufacturing, dynamic services, non-market services, and non-specialized communities,
- labour force participation rates 15 and over have been increasing for forestry, tourism, dynamic services, retirement, and dual specialization communities,
- labour force participation rates for females have been increasing for agricultural, forestry, mining, dynamic services, non-market services, retirement, dual specialization, and non-specialized communities, and
- % commuting outside of the CSD has been increasing for agricultural, fishing, forestry, mining, dynamic services, and retirement communities.

In addition, a number of characteristics have been **decreasing** for certain types of rural and small town places. These include the following:

- % population 15-24 has been decreasing for fishing, forestry, mining, tourism, manufacturing, retirement, non-market services, dual specialization, and non-specialized communities,
- % population that is male has been decreasing for agricultural, fishing, forestry, mining, tourism, dynamic services, non-market services, retirement, dual specialization, and non-specialized communities,
- % of families with children has been decreasing for agricultural, fishing, forestry, mining, manufacturing, dynamic services, retirement, dual specialization, and non-specialized communities,
- % employment income has been decreasing for agricultural, fishing, mining, manufacturing, non-market services, and non-specialized communities,
- % government transfer has been decreasing for fishing, forestry, dynamic services, non-market services, retirement, and non-specialized communities,
- % other income has been decreasing for agricultural, forestry, retirement, and dual specialized communities,
- labour force participation rates 15 and over have been decreasing for fishing, mining, manufacturing, non-market services, and non-specialized communities,
- labour force participation rates for females have been decreasing for fishing, tourism, and manufacturing communities, and

- % commuting outside of the CSD has been decreasing for tourism, manufacturing, non-market services, dual specialized, and non-specialized communities.

Having said this, there are some important considerations to be raised when comparing the 'directional approach' in Appendix C with the changes depicted in rural and small town places with different economic sectors in Appendix B. Not all of these characteristics will come into play at the same time during decline. In fact, the decline phase itself may be broken into further stages. For example, while some residents may move out of the community after an industry closure, others may not immediately move out of the community. Depending on commuting opportunities, some residents may seek employment opportunities in nearby places, such as the case in some agricultural towns (Lawrence *et al.* 2001; Lobao and Meyer 1995). Eventually, commuting for work or shopping may lead to additional economic leakage and out-migration (Thomas and Bromley 2002; Findlay *et al.* 2001; Halseth and Sullivan 2000; Pinkerton *et al.* 1995). Therefore, out-migration may take place in stages and the pace of decline may vary from place to place.

The percentage of employment income within a place may decline if the 'unemployed' remain in the community during Census periods. If the 'unemployed' migrate, it is possible that the percentage share of those with employment income could remain the same or increase. This may explain why the percentage of incomes from employment and overall labour force participation rates increase despite declines in the population for forestry communities.

In addition, government transfers may increase initially as unemployment rises after industry closure. However, in declining communities, these transfers may decrease as the 'unemployed' move out of the community to pursue employment or even retraining and educational services in other places. This may be particularly important in smaller places that have fewer social or educational services to help residents adjust to change.

Some rural and small town places, such as dynamic services and agricultural communities, have retained or even increased the share of the population between the ages of 15-24 despite declines in the labour force participation rates for this age group. Lower labour force participation rates for this age group will be an important issue confronting these communities in order to prevent youth out-migration.

Furthermore, when we explore tourism communities, for example, the percentage of families with children may be increasing, but the actual number of families in the community may have declined. This may explain why the percentage of families with children has on average increased dramatically (23.7%) despite declines in the percentage of the population between the ages of 0-24. Moreover, there are many different types of tourism communities. In some tourism towns, those staying behind are older, drawing upon other incomes in the form of RRSPs or pensions through government transfers. As unemployment is 'exported' out of the community, population numbers could drop followed by an increased share in the percentage of residents with employment income. These numbers may be further influenced by seasonal residents.

Moreover, the number of communities specializing in a given economic sector may be small,

such as the case with fishing and forestry communities. As such, it is possible for a small community to substantially influence the mean values for characteristics exploring rural and small town places in decline. The wide range in values indicated in the minimum and maximum columns for tables in Appendix B really demonstrate the variations experienced in these places.

To summarize, we have developed an understanding of indicators of decline in type of economic sector. There are some limitations to this, given that within the 10-year period used for this analysis, in any given economic sector some communities may have been in a period of decline or transformation to another economic sector while continuing to decline. More research will be needed to unpack the variation among communities. For example, individual case studies of specific communities will be important (this will be completed in the next phase of this study). Another approach, beyond the scope of this study, would be to look specifically at communities which had a change in its economic sector classification (for example, from agriculture to dual specialization), to understand more about the dynamics of community change. In the next section, we turn to a discussion of the relative explanatory power of the change in the socio-economic characteristics themselves, and consider other factors which should be analyzed to understand a community moving through a period of decline and into an alternative future.

9.0   The Relative Explanatory Power of Socio-Economic Characteristics: The Importance of Context

To this point in the analysis we have been exploring the potential of a range of socio-economic characteristics to explain, describe, or identify when a community is in a period of decline. We have explored the changes in these characteristics over the 1991 and 2001 period in rural and small town Canada. We have concluded that there is significant variation in the values of these characteristics from one community to the next, and from one cluster of similar types of communities (based on economic sector classification) to another. At best, we have been able to determine the direction of change for each characteristic, through this 10-years period, in terms of its increase or decrease in value. The significant diversity from one place to the next does not permit the identification of an easily identifiable "threshold" for each characteristic to show when a community is in decline.

Socio-economic characteristics are only part of the story of change in rural Canada. Each community is unique, and each economic sector is unique as well. These places are conditioned and shaped by a range of other local and exogenous factors which are not easily measured with statistics. Context is important to understanding changes in the local economy. Reimer (2003) notes that communities with similar economic outcomes over time may in fact be much different in terms of the extent to which their economic base is more or less exposed to the global economy (for example, the products produced locally are sold to foreign companies, and therefore the local economy is exposed to changes in international trade rules, changes in the value of the dollar, etc.). Lawrence *et al.* (2001) also emphasize the importance of exposure to the global economy as a factor influencing rural decline. Page and Beshiri (2003) highlight the importance of the regional economy as something which helps to shape the local economy of a small place. Others have identified that the differences between seemingly similar communities in terms of the specific resource which shapes the local economy are important (Randall and Ironside 1996; Wilson 2004). This includes, for example, that there may be very important

differences between a coal mining town and a gold mining town - even though both are classified as 'mining' communities.

Changes over time in a community happen in the context of these elements. Thus there are a number of key questions that should be asked about a given community to understand much more about the nature of the decline, and which type(s) of alternative future(s) might be possible. These questions include:

- What is the nature of the regional economy surrounding this community? Is it healthy or unstable?
- What is the potential for commuting to work in other communities in the region, while maintaining residence in this community?
- What is the strength/quality of local leadership to help move the community forward or to address the problems it faces?
- What is the nature of ownership of industry and business in the community? Is it local or from outside? Is it diversified or concentrated?
- How exposed is the local economy to global economic forces (e.g., what are the commodity prices for the local resource, and how is it changing?)
- What federal and provincial policies affect this community? Are they likely to change? What about larger economic policies, such as GATT, NAFTA, and others?
- Are there a range of core services (health, education, justice, etc.) present in the community, or within 30 minutes drive of this community?
- What are the strengths, if any, of development regional agencies who may play a role in the transformation of this community?
- For communities which are classified as either dual specialization or non-specialized, how has the distribution of the labour force across all sectors changed in recent years, and where is the distribution headed? Is the community moving towards greater concentration or more diversity in its economy, and if so, to which or from which economic sector(s)?

Policy and program officers who are able to generate answers to these questions, and who are informed about the broader trends associated with the type of community in question, will be in a much better position to make sound judgments and decisions about the nature and extent of the period of economic decline in the community, where the community might be headed in terms of an alternative future, and how best to support its future development.

10.0   Summary and Conclusions

Most rural and small town places are undergoing significant transition and restructuring. Many community development models have emerged to explore changes in rural and small town places. However, most of these models have focused on resource communities and do not reflect the diversity of rural and small town Canada. The most important aspect of the framework in this study is to understand how various communities move through periods of change and where they are potentially heading.

The framework consists of the following elements:
- identify if the community has a population less than 5,000 and has a Weak or No MIZ

status;
- determine which economic sector characterizes the community based on which sector(s) has 25% or more of the labour force employed (or 25% or more of the population age 65 and over);
- examine the socio-economic characteristics of declining communities in the most recent census, from the list provided, and compare how things have changed in the 10 years prior to the most recent census;
- supplement the assessment with answers to the questions about local and contextual issues, which help to determine where a community heads once it begins a period of decline.

The framework explores a number of stages in community development including startup, growth, plateau, decline, and alternative futures. With numerous variations in possible alternative futures, however, there will be significant local differences and regional contexts which will shape the change experienced by a place. The possibilities of 'alternative futures' will be explored through case studies in Phase IV.

Furthermore, previous studies and a review of population change in the Census between 1991 and 2001 indicate that many rural and small town places are in a stage of decline or are pursuing alternative futures. Few communities are starting up or growing. As such, Phase III focused upon examining socio-economic characteristics of declining communities between 1991 and 2001.

The selected characteristics have potential to help policy makers and communities understand if a place is in a period of decline due to their importance in the literature and because they are applicable to a range of community sizes and types. Within this context, there are some important considerations to keep in mind. These communities are experiencing numerous changes between Census periods. Moreover, as the characteristics were examined, there were many variations with the minimum and maximum values and standard deviation for change in rural and small town places between 1991 and 2001. It is also not possible to develop measures or thresholds for each characteristic due to the large variations that exist within communities in a given economic sector. Incomes, for example, may vary from coal mining to gold mining towns or from sawmill to pulp and paper towns. Therefore, the thresholds may be quite different.

However, for most of the selected characteristics, the direction of change was evident. Most characteristics were either decreasing or increasing. As such, this study explored the directionality of selected characteristics for declining communities. This proved to have value in exploring increases, declines, or stability of socio-economic characteristics in rural and small town places. In general, characteristics that had been increasing in declining communities, regardless of sector included % lone-parent families, % one-person households, % population 45-64, % population 65 and over, and change in average dwelling value ($). Characteristics that had been decreasing in declining communities regardless of sector included % population change, % population 0-14, % population 25-44, youth dependency ratio, % youth out-migration, % employed in a given sector (except retirement communities), labour force participation rate 15-24 years of age, and % built during the last five years.

Amongst the eleven different sectors, though, there are differences in the magnitude and direction of other characteristics. As such, while these characteristics provide an important foundation to understanding change in rural and small town Canada, it will be important for policy makers and program analysts to understand the context in which these places are situated. Notably, many factors may influence the development of a place, such as transportation and communication infrastructure or even exposure to pressures associated in the global market place.

There are no easy answers or thresholds for understanding or predicting the future economic development activity of a community. Communities are dynamic and living, as noted in Table 14 which showed how many communities (particularly those experiencing population declines) actually had a different economic sector classification in 2001 compared to how they were classified in 1991. The key is to understand how the local situation and the broader economic context are likely to shape and influence the ability of the community to respond to change.

Phase IV of this project will use case studies to explore how some communities pursue alternative futures. Notably, a community may transform to another economic activity and grow again. It may transform to a different economic activity and plateau at a similiar or lower level than before. A place may transform to another economic activity and decline more. It may remain in the same sector, but function at a lower plateau than before. Finally, a community may experience decommission or closure. Case studies will be selected for each of the eleven different types of sectors for their ability to depict these alternative futures. Through a case study methodology, Phase IV will also demonstrate the importance of context by describing the unique features of rural and small town places across Canada, such as global exposure, ownership of industry, or infrastructure, that ultimately impact the stability or change of a place.

Appendix A – Summary of Key Socio-Economic Census Characteristics Which Indicate Stage of Economic Development Activity

Table A1: Summary of Key Socio-Economic Census Characteristics Which Indicate Stage of Economic Development Activity, All Communities with 2001 Population of 50 - 4,999, 1991 and 2001

n=1342	1991				2001			
Characteristic	Min	Max	Mean	SD	Min	Max	Mean	SD
Population	40	5064	931.9	962.1	50	4819	878.0	928.2
% Pop'n 0-14	0.0	55.6	24.0	6.7	0.0	51.3	20.0	7.0
% Pop'n 15-24	0.0	37.5	13.6	4.4	0.0	33.3	12.7	3.8
% Pop'n 25-44	0.0	50.0	28.8	5.6	0.0	55.2	26.0	5.3
% Pop'n 45-64	0.0	63.6	19.3	5.8	0.0	60.0	25.2	6.9
% Pop'n 65+	0.0	55.0	14.4	9.2	0.0	66.7	16.1	9.2
% Pop'n Male	37.5	66.7	51.1	3.1	36.8	64.3	50.8	3.1
% Lone parent families	0.0	40.0	8.7	5.6	0.0	66.7	12.0	10.6
% One-person households	0.0	60.0	21.3	10.4	0.0	70.0	24.8	10.3
Youth dependency ratio	0.0	166.7	39.7	13.2	0.0	133.3	31.9	13.2
Elderly dependency ratio	0.0	137.5	25.1	19.7	0.0	266.7	26.9	20.4
% 5-year mover	0.0	90.2	28.7	17.4	0.0	93.8	27.4	15.0
% Pop'n 25-34 2001					0.0	35.7	10.7	4.0
% Employment income	0.0	95.5	54.7	29.6	0.0	96.5	53.4	30.4
% Gov't transfer payments	0.0	60.7	16.6	12.4	0.0	53.8	16.6	12.0
% Other income	0.0	44.3	8.1	7.8	-6.7	38.9	7.3	6.3
% Agriculture	0.0	100.0	18.7	24.0	0.0	100.0	17.0	22.7
% Fishing	0.0	81.8	2.6	8.1	0.0	150.0	2.5	9.4
% Forestry	0.0	60.0	2.6	6.0	0.0	50.0	1.8	4.9
% Mining	0.0	75.8	3.4	8.2	0.0	72.7	3.7	8.1
% Tourism	0.0	100.0	5.9	7.8	0.0	100.0	6.1	8.0
% Manufacturing	0.0	80.0	9.6	12.7	0.0	100.0	9.7	13.2
% Dynamic Services	0.0	100.0	13.2	10.8	0.0	100.0	15.6	12.1
% Non-market Services	0.0	100.0	21.9	15.1	0.0	100.0	23.6	16.7
LF Participation rate 15+	18.2	100.0	63.1	14.5	25.0	100.0	63.6	13.3
LF Participation rate 15-24	0.0	100.0	55.7	25.4	0.0	100.0	50.1	27.6
LF Participation rate Females 15+	0.0	100.0	53.6	17.4	0.0	100.0	56.2	15.9
% Commute Outside CSD	0.0	100.0	34.6	27.2	0.0	100.0	3378.0	24.6
% Built Last 5 Years	0.0	100.0	8.6	10.7	0.0	51.2	4.9	6.6
Average Dwelling Value $	0	278760	50051.0	27418.2	0	277358	61369.6	35870.7

Table A2: Summary of Key Socio-Economic Census Characteristics Which Indicate Stage of Economic
Development Activity, All Communities with 2001 Population of 100 - 4,999, 1991 and 2001

n=1252	1991				2001			
Characteristic	Min	Max	Mean	SD	Min	Max	Mean	SD
Population	40	5064	992.0	968.6	101	4819	936.3	934.9
% Pop'n 0-14	0.0	52.5	24.2	6.3	0.0	51.3	20.2	6.6
% Pop'n 15-24	0.0	30.6	13.8	4.0	0.0	32.0	12.9	3.3
% Pop'n 25-44	8.6	50.0	28.9	5.2	11.1	55.2	26.1	4.6
% Pop'n 45-64	3.3	63.6	19.1	5.1	4.8	55.0	25.1	6.3
% Pop'n 65+	0.0	47.1	14.2	8.9	0.0	45.8	15.7	8.4
% Pop'n Male	41.3	66.7	51.2	2.9	41.9	64.0	50.8	2.8
% Lone parent families	0.0	33.3	8.9	5.2	0.0	66.7	12.3	10.0
% One-person households	0.0	54.5	20.9	10.0	0.0	55.6	24.3	9.6
% families with children	0.0	100.0	60.1	11.3	0.0	100.0	59.4	14.8
Youth dependency ratio	0.0	125.0	39.7	12.1	0.0	111.1	32.2	12.5
Elderly dependency ratio	0.0	133.3	24.5	19.0	0.0	100.0	25.8	17.1
% 5-year mover	0.0	90.2	28.5	17.0	0.0	78.1	27.3	14.5
% Pop'n 25-34 2001					0.0	29.0	10.7	3.6
% Employment income	0.0	95.5	57.9	27.2	0.0	96.5	57.3	27.8
% Gov't transfer payments	0.0	60.7	17.6	12.0	0.0	53.8	17.8	11.5
% Other income	0.0	44.3	8.6	7.8	-6.7	38.9	7.8	6.2
% Agriculture	0.0	89.1	18.8	23.9	0.0	92.2	17.2	22.5
% Fishing	0.0	68.2	2.6	7.8	0.0	100.0	2.4	8.1
% Forestry	0.0	60.0	2.7	6.1	0.0	50.0	1.8	4.8
% Mining	0.0	63.4	3.4	7.8	0.0	63.7	3.7	7.4
% Tourism	0.0	100.0	5.7	6.9	0.0	55.6	5.8	6.0
% Manufacturing	0.0	72.2	9.7	12.6	0.0	72.4	9.9	12.8
% Dynamic Services	0.0	70.8	12.9	9.7	0.0	100.0	15.5	10.9
% Non-market Services	0.0	80.6	22.1	14.4	0.0	100.0	23.9	15.7
LF Participation rate 15+	20.0	100.0	63.4	13.9	30.0	100.0	63.6	13.0
LF Participation rate 15-24	0.0	100.0	57.0	23.3	0.0	100.0	53.1	25.2
LF Participation rate Females 15+	0.0	100.0	54.0	16.2	0.0	100.0	56.4	14.5
% Commute Outside CSD	0.0	100.0	33.9	26.5	0.0	100.0	32.8	23.7
% Built Last 5 Years	0.0	100.0	8.6	10.1	0.0	51.2	4.9	6.2
Average Dwelling Value $	0	278760	50773	26932	0	277358	62580	34625

Table A3: Summary of Key Socio-Economic Census Characteristics Which Indicate Stage of Economic Development Activity, by Size of Community (100 - 2,499 and 2,500 - 4,999), 1991

Characteristic	Population 100-2,499 (n=1137)				Population 2,500-4,999 (n=113)			
	Min	Max	Mean	SD	Min	Max	Mean	SD
Population	40	3159	744.8	551.7	2061	5064	3476.4	727.1
% Pop'n 0-14	0.0	52.5	24.2	6.5	14.4	35.1	23.6	4.6
% Pop'n 15-24	0.0	30.6	13.7	4.2	9.8	21.9	14.2	2.2
% Pop'n 25-44	8.6	50.0	28.6	5.1	21.9	44.2	31.2	4.8
% Pop'n 45-64	3.3	63.6	19.1	5.3	8.6	30.2	18.5	3.5
% Pop'n 65+	0.0	47.1	14.3	9.1	0.4	32.8	12.4	7.1
% Pop'n Male	41.3	66.7	51.3	2.9	45.0	54.9	50.3	2.3
% Lone parent families	0.0	33.3	8.8	5.3	3.0	20.1	9.8	3.6
% One-person households	0.0	54.5	20.9	10.3	6.2	36.5	20.4	6.8
Youth dependency ratio	0.0	125.0	40.0	12.4	24.6	59.9	37.1	7.4
Elderly dependency ratio	0.0	133.3	25.0	19.4	0.6	65.7	20.3	13.4
% 5-year mover	0.0	90.2	27.7	16.9	2.6	78.9	36.5	15.7
% Pop'n 25-34 2001								
% Employment income	0.0	94.5	56.4	27.7	0.0	95.5	74.0	12.3
% Gov't transfer payments	0.0	60.7	17.8	12.3	0.0	48.1	16.2	8.7
% Other income	0.0	44.3	8.5	8.0	0.0	24.7	9.0	5.4
% Agriculture	0.0	89.1	19.6	24.3	0.0	70.5	10.7	17.9
% Fishing	0.0	68.2	2.7	8.1	0.0	25.0	1.5	4.0
% Forestry	0.0	60.0	2.6	6.2	0.0	40.3	2.9	4.7
% Mining	0.0	59.6	3.2	7.2	0.0	63.4	5.5	11.9
% Tourism	0.0	100.0	5.6	7.2	0.0	19.6	6.9	3.6
% Manufacturing	0.0	72.2	9.6	12.8	0.0	56.9	11.3	10.1
% Dynamic Services	0.0	70.8	12.8	9.9	0.0	45.5	14.1	6.2
% Non-market Services	0.0	80.6	21.9	14.8	7.8	55.0	23.5	8.9
LF Participation rate 15+	20.0	100.0	63.1	14.2	47.8	88.1	67.2	10.1
LF Participation rate 15-24	0.0	100.0	56.4	24.0	19.0	100.0	63.3	12.9
LF Participation rate Females 15+	0.0	100.0	53.6	16.6	40.0	81.0	58.1	10.0
% Commute Outside CSD	0.0	100.0	34.3	26.7	1.1	97.7	29.9	24.6
% Built Last 5 Years	0.0	100.0	8.6	10.4	0.0	34.0	8.4	5.5
Average Dwelling Value $	0	278760	49107	26684	26057	182136	67589	23793

Table A4: Summary of Key Socio-Economic Census Characteristics Which Indicate Stage of Economic Development Activity, by Size of Community (100 - 2,499 and 2,500 - 4,999), 2001

Characteristic	Population 100-2,499 (n=1137)				Population 2,500-4,999 (n=113)			
	Min	Max	Mean	SD	Min	Max	Mean	SD
Population	101	2471	696.6	526.9	1851	4819	3352.5	683.4
% Pop'n 0-14	0.0	51.3	20.2	6.8	13.4	34.3	20.2	4.4
% Pop'n 15-24	0.0	32.0	12.8	3.4	8.6	18.0	13.2	2.1
% Pop'n 25-44	11.1	55.2	26.0	4.7	19.2	38.7	27.6	3.9
% Pop'n 45-64	4.8	55.0	25.1	6.5	13.3	33.2	24.5	4.1
% Pop'n 65+	0.0	45.8	15.8	8.5	0.3	31.7	14.5	7.0
% Pop'n Male	41.9	64.0	50.9	2.9	44.0	56.3	49.7	2.3
% Lone parent families	0.0	66.7	12.2	10.3	2.3	29.4	13.2	5.8
% One-person households	0.0	55.6	24.4	9.8	8.2	39.6	24.0	6.8
Youth dependency ratio	0.0	111.1	32.3	12.9	19.8	55.6	31.1	7.4
Elderly dependency ratio	0.0	100.0	26.1	17.4	0.4	61.2	23.1	12.9
% 5-year mover	0.0	78.1	26.7	14.5	7.1	71.2	33.8	12.7
% Pop'n 25-34 2001	0.0	29.0	10.7	3.6	6.8	20.2	11.6	2.4
% Employment income	0.0	95.0	55.7	28.5	52.2	96.5	73.3	9.8
% Gov't transfer payments	0.0	53.8	17.9	11.9	1.8	38.5	17.1	7.5
% Other income	0.0	38.9	7.6	6.3	1.6	29.0	9.6	4.9
% Agriculture	0.0	92.2	18.0	22.9	0.0	76.7	8.7	15.4
% Fishing	0.0	100.0	2.5	8.4	0.0	28.3	1.6	4.3
% Forestry	0.0	50.0	1.8	5.0	0.0	28.7	2.0	3.3
% Mining	0.0	53.5	3.5	7.1	0.0	63.7	4.9	10.1
% Tourism	0.0	55.6	5.7	6.2	0.6	18.0	6.9	3.5
% Manufacturing	0.0	72.4	9.7	13.0	0.0	56.1	12.2	10.4
% Dynamic Services	0.0	100.0	15.5	11.3	3.5	41.9	16.1	5.5
% Non-market Services	0.0	100.0	23.8	16.2	7.3	60.6	25.2	9.3
LF Participation rate 15+	30.0	100.0	63.5	13.3	43.0	85.0	64.8	9.2
LF Participation rate 15-24	0.0	100.0	52.4	26.0	26.2	86.7	60.1	13.4
LF Participation rate Females 15+	0.0	100.0	56.3	15.0	39.0	79.0	57.6	9.1
% Commute Outside CSD	0.0	100.0	33.7	23.9	0.0	73.0	24.1	19.3
% Built Last 5 Years	0.0	51.2	4.9	6.4	0.0	18.7	5.2	3.5
Average Dwelling Value $	0	277358	59793	33629	0	203451	90673	32018

Note: The minimum population value in the 2,500-4,999 cluster in 2001 is 1851. This was the population of Tumbler Ridge at the time of the census. It actually had a much larger population both in the months immediately before and after the actual census of 2001, and so we have included it in the larger population cluster.

Table A5: Summary of Key Socio-Economic Census Characteristics Which Indicate Stage of Economic
Development Activity, by 2001 MIZ Status of Community and 2001 Population 100 - 4,999, 1991

	Weak MIZ (n=758)				No MIZ (n=494)			
Characteristic	Min	Max	Mean	SD	Min	Max	Mean	SD
Population	76	5064	1324.3	1075.8	40	3382	482.1	416.4
% Pop'n 0-14	9.4	48.9	24.0	5.4	0.0	52.5	24.4	7.5
% Pop'n 15-24	4.3	26.0	13.8	3.2	0.0	30.6	13.7	5.0
% Pop'n 25-44	13.2	50.0	29.5	4.9	8.6	43.8	28.0	5.4
% Pop'n 45-64	3.3	45.8	19.2	4.4	4.0	63.6	18.9	6.0
% Pop'n 65+	0.0	47.1	13.5	8.0	0.0	45.5	15.2	10.0
% Pop'n Male	43.2	61.7	51.1	2.7	41.3	66.7	51.3	3.2
% Lone parent families	0.0	33.3	9.0	4.7	0.0	33.3	8.7	5.8
% One-person households	0.0	45.1	20.2	8.6	0.0	54.5	21.8	11.9
Youth dependency ratio	14.3	100.0	38.8	9.8	0.0	125.0	41.2	14.7
Elderly dependency ratio	0.0	133.3	22.9	16.6	0.0	115.4	27.1	21.8
% 5-year mover	0.0	90.2	29.3	16.9	0.0	88.0	27.4	17.0
% Pop'n 25-34 2001								
% Employment income	0.0	95.5	65.8	19.8	0.0	94.5	45.9	32.2
% Gov't transfer payments	0.0	60.7	18.7	10.2	0.0	57.9	15.9	14.2
% Other income	0.0	43.0	9.3	7.0	0.0	44.3	7.4	8.7
% Agriculture	0.0	89.1	18.8	23.8	0.0	86.7	18.8	24.1
% Fishing	0.0	65.0	2.3	6.7	0.0	68.2	3.1	9.3
% Forestry	0.0	44.4	2.5	5.1	0.0	60.0	3.0	7.3
% Mining	0.0	63.4	3.2	7.6	0.0	59.6	3.7	7.9
% Tourism	0.0	100.0	5.9	6.3	0.0	75.0	5.3	7.8
% Manufacturing	0.0	72.2	10.4	12.6	0.0	64.7	8.7	12.6
% Dynamic Services	0.0	63.0	13.1	8.3	0.0	70.8	12.7	11.5
% Non-market Services	0.0	80.0	22.0	13.0	0.0	80.6	22.1	16.3
LF Participation rate 15+	25.0	100.0	65.9	12.5	20.0	100.0	59.7	15.3
LF Participation rate 15-24	0.0	100.0	60.9	18.5	0.0	100.0	51.0	28.2
LF Participation rate Females 15+	0.0	100.0	56.6	13.9	0.0	100.0	49.9	18.4
% Commute Outside CSD	0.0	100.0	34.3	25.4	0.0	100.0	33.2	28.0
% Built Last 5 Years	0.0	71.4	8.6	8.8	0.0	100.0	8.5	11.8
Average Dwelling Value $	0	278760	54790	26484	0	229286	44608	26470

Table A6: Summary of Key Socio-Economic Census Characteristics Which Indicate Stage of Economic Development Activity, by 2001 MIZ Status of Community, and 2001 Population 100 - 4,999, 2001

Characteristic	Weak MIZ (n=758)				No MIZ (n=494)			
	Min	Max	Mean	SD	Min	Max	Mean	SD
Population	109	4819	1253.6	1040.6	101	3004	449.5	403.6
% Pop'n 0-14	2.1	45.8	20.1	5.6	0.0	51.3	20.5	8.0
% Pop'n 15-24	0.0	22.6	13.0	2.8	0.0	32.0	12.6	4.1
% Pop'n 25-44	12.5	55.2	26.3	4.3	11.1	40.5	25.8	5.0
% Pop'n 45-64	8.5	45.5	25.2	5.5	4.8	55.0	24.8	7.4
% Pop'n 65+	0.0	45.8	15.4	7.8	0.0	42.9	16.2	9.3
% Pop'n Male	42.3	64.0	50.7	2.7	41.9	59.1	50.9	3.0
% Lone parent families	0.0	48.1	12.2	8.2	0.0	66.7	12.4	12.2
% One-person households	4.4	55.6	23.8	8.2	0.0	54.5	25.3	11.4
Youth dependency ratio	4.0	87.1	31.5	10.1	0.0	111.1	33.3	15.4
Elderly dependency ratio	0.0	100.0	24.9	15.6	0.0	94.0	27.2	19.0
% 5-year mover	0.0	78.1	28.1	14.0	0.0	69.0	26.2	15.1
% Pop'n 25-34 2001	2.0	29.0	10.8	3.2	0.0	25.0	10.6	4.1
% Employment income	0.0	96.5	66.9	17.3	0.0	92.6	42.5	33.7
% Gov't transfer payments	0.0	49.2	19.8	9.4	0.0	53.8	14.7	13.7
% Other income	0.0	35.4	8.9	5.5	0.0	38.9	6.1	6.9
% Agriculture	0.0	92.2	17.3	22.4	0.0	90.3	17.0	22.7
% Fishing	0.0	54.3	2.2	6.6	0.0	100.0	2.8	9.9
% Forestry	0.0	36.7	1.7	3.8	0.0	50.0	2.0	6.0
% Mining	0.0	63.7	3.4	7.0	0.0	50.0	4.0	8.0
% Tourism	0.0	31.0	5.9	4.8	0.0	55.6	5.6	7.4
% Manufacturing	0.0	66.7	10.7	12.1	0.0	72.4	8.7	13.7
% Dynamic Services	0.0	56.9	15.1	8.2	0.0	100.0	16.1	14.0
% Non-market Services	0.0	90.0	23.7	13.2	0.0	100.0	24.3	19.0
LF Participation rate 15+	30.0	100.0	64.9	12.0	30.0	98.0	61.7	14.2
LF Participation rate 15-24	0.0	100.0	58.3	19.6	0.0	100.0	45.0	30.3
LF Participation rate Females 15+	21.0	95.0	57.6	13.2	0.0	100.0	54.5	16.2
% Commute Outside CSD	0.0	93.3	32.1	22.6	0.0	100.0	33.8	25.3
% Built Last 5 Years	0.0	51.2	4.9	5.2	0.0	43.8	5.0	7.5
Average Dwelling Value $	0	277358	68255	34107	0	201125	53873	33623

Table A-8 Percent Change in Socio-Economic Variables, 1991-2001, All Communities with 2001 Population 100-2,499 and 2,500-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Population 100-2,499 (n=814)				Population 2,500-4,999 (n=72)			
	Min	Max	Mean	SD	Min	Max	Mean	SD
% Pop'n change	-290.1	.0	-18.7	18.4	-151.2	-.1	-11.6	18.5
% Pop'n 0-14	-24.6	19.0	-4.7	4.5	-10.0	.4	-3.9	2.2
% Pop'n 15-24	-16.2	23.0	-1.0	4.4	-7.0	3.1	-1.5	2.3
% Pop'n 25-44	-24.0	16.0	-3.0	4.2	-15.0	1.5	-3.9	2.6
% Pop'n 45-64	-13.2	26.4	6.6	5.2	-.4	20.9	6.9	3.7
% Pop'n 65+	-16.9	23.7	2.0	4.1	-1.6	9.0	2.5	1.9
% Pop'n Male	-13.3	11.6	-0.5	2.3	-2.1	1.2	-0.6	0.8
% Lone parent families	-33.3	55.6	2.8	8.8	-3.0	11.1	3.4	3.0
% One-person households	-21.2	33.3	4.0	5.4	-1.1	9.1	4.2	2.4
% families with children	-55.6	54.5	-2.9	12.5	-14.6	14.8	-0.4	5.8
Youth dependency ratio	-50.0	36.4	-8.8	9.1	-16.8	.8	-6.7	4.1
Elderly dependency ratio	-62.1	56.0	1.9	9.2	-4.5	16.6	3.5	3.4
% 5-year mover	-68.3	54.5	-0.5	13.7	-37.4	13.4	-2.6	8.0
% Youth Out-migration	-1.0	2.5	-0.3	0.3	-.8	.1	-0.3	0.1
% Employment income	-89.1	84.7	-2.1	23.9	-23.3	77.4	-0.1	11.2
% Gov't transfer payments	-57.9	50.2	-0.2	11.7	-22.6	20.0	0.5	5.3
% Other income	-44.3	24.6	-1.4	8.0	-8.7	10.7	1.0	3.8
% Agriculture	-81.4	81.1	-1.7	15.6	-13.6	10.8	-1.1	4.3
% Fishing	-57.1	100.0	-0.1	9.6	-22.2	12.8	0.1	3.9
% Forestry	-36.9	37.5	-0.7	5.7	-10.7	7.7	-0.9	2.6
% Mining	-50.0	44.4	0.0	6.7	-41.5	12.8	-1.1	6.9
% Tourism	-100.0	55.6	0.4	7.7	-10.1	10.8	0.1	3.4
% Manufacturing	-66.8	54.5	-0.5	12.1	-14.5	33.5	1.0	7.0
% Dynamic Services	-63.6	100.0	3.1	13.4	-9.4	15.0	1.8	4.8
% Non-market Services	-66.7	87.5	1.6	14.4	-11.3	29.3	2.0	6.2
LF Participation rate 15+	-48.2	62.1	0.1	12.9	-15.7	12.9	-2.4	5.2
LF Participation rate 15-24	-100.0	100.0	-5.2	30.8	-34.9	30.4	-3.7	11.4
LF Participation rate Females 15+	-63.8	84.4	2.1	16.1	-22.8	17.2	-0.4	6.6
% Commute Outside CSD	-100.0	100.0	-0.7	21.7	-63.9	25.1	-5.3	16.3
% Built Last 5 Years	-38.9	33.3	-3.1	7.8	-33.4	7.0	-4.0	6.3
Change in Average Dwelling Value $	-175000	227324	7575	24827	-22377	98777	18875	19444

Table A-9 Percent Change in Socio-Economic Variables, 1991-2001, by Weak and No MIZ Status for All Communities with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Weak MIZ (n=526)				No MIZ (n=360)			
	Min	Max	Mean	SD	Min	Max	Mean	SD
% Pop'n change	-290.1	.0	-16.8	20.2	-127.5	-.1	-19.9	15.5
% Pop'n 0-14	-14.9	6.4	-4.6	3.4	-24.6	19.0	-4.7	5.4
% Pop'n 15-24	-12.0	10.3	-0.9	3.3	-16.2	23.0	-1.1	5.3
% Pop'n 25-44	-15.6	10.9	-3.6	3.3	-24.0	16.0	-2.4	5.1
% Pop'n 45-64	-11.7	20.9	6.7	4.3	-13.2	26.4	6.5	6.0
% Pop'n 65+	-9.5	17.2	2.4	3.1	-16.9	23.7	1.6	5.0
% Pop'n Male	-8.4	6.8	-0.5	1.7	-13.3	11.6	-0.4	2.7
% Lone parent families	-28.6	28.6	2.7	6.1	-33.3	55.6	3.0	11.1
% One-person households	-11.8	30.0	4.1	4.0	-21.2	33.3	3.9	6.5
% families with children	-45.5	54.5	-2.4	9.6	-55.6	44.9	-3.0	15.1
Youth dependency ratio	-38.6	17.2	-8.3	6.8	-50.0	36.4	-9.1	11.1
Elderly dependency ratio	-47.1	56.0	2.9	6.8	-62.1	41.5	0.7	11.1
% 5-year mover	-49.5	35.1	-0.8	11.3	-68.3	54.5	-0.5	15.9
% Youth Out-migration	-.9	.8	-0.3	0.2	-1.0	2.5	-0.3	0.4
% Employment income	-87.4	84.7	0.4	18.5	-89.1	83.8	-5.5	28.3
% Gov't transfer payments	-33.6	45.3	1.2	9.0	-57.9	50.2	-2.1	13.9
% Other income	-43.0	21.7	-0.7	7.1	-44.3	24.6	-1.9	8.6
% Agriculture	-61.1	81.1	-1.5	12.8	-81.4	80.0	-1.8	17.8
% Fishing	-50.7	52.6	-0.1	7.0	-57.1	100.0	-0.2	11.7
% Forestry	-36.4	18.2	-0.7	4.2	-36.9	37.5	-0.8	7.0
% Mining	-41.5	25.0	0.0	5.1	-50.0	44.4	-0.3	8.6
% Tourism	-100.0	31.0	0.4	6.7	-25.0	55.6	0.5	8.5
% Manufacturing	-66.8	38.3	-0.5	10.6	-64.7	54.5	-0.3	13.4
% Dynamic Services	-37.5	35.7	2.7	9.2	-63.6	100.0	3.6	16.9
% Non-market Services	-34.1	45.1	1.9	9.9	-66.7	87.5	1.4	18.3
LF Participation rate 15+	-39.2	62.1	-1.2	10.3	-48.2	56.6	1.6	14.9
LF Participation rate 15-24	-94.4	100.0	-3.3	24.4	-100.0	100.0	-7.6	36.0
LF Participation rate Females 15+	-45.0	84.4	0.6	12.9	-63.8	77.8	3.8	18.7
% Commute Outside CSD	-90.7	82.9	-2.3	18.1	-100.0	100.0	0.8	25.2
% Built Last 5 Years	-35.9	16.7	-3.4	7.0	-38.9	33.3	-2.8	8.6
Change in Average Dwelling Value $	-175000	227324	9900	26025	-71190	103465	6438	22284

Appendix B - Summary Tables Showing Change in Percent Values for Each Socio-Economic Characteristic for Each Economic Sector

Based on 1991 designation and looking forward to what happened in these communities over the past 10 years, we gain insights into what characteristics move in what direction.

Table B-1 Percent Change in Socio-Economic Variables, 1991-2001, Agricultural Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=236)	SD
% Pop'n change	-65.8	-.3	-20.3	12.5
% Pop'n 0-14	-20.8	6.0	-5.5	4.2
% Pop'n 15-24	-10.4	23.0	0.6	3.8
% Pop'n 25-44	-21.2	10.9	-4.1	3.6
% Pop'n 45-64	-8.0	21.9	6.2	4.5
% Pop'n 65+	-9.5	21.7	2.7	3.4
% Pop'n Male	-8.1	11.6	-0.4	2.2
% Lone parent families	-28.6	33.3	1.1	7.2
% One-person households	-21.2	21.2	3.0	4.5
% families with children	-45.5	32.9	-6.2	10.4
Youth dependency ratio	-46.5	19.6	-10.0	8.8
Elderly dependency ratio	-21.4	41.5	3.4	6.8
% 5-year mover	-49.5	54.5	0.9	12.7
% Youth Out-migration	-1.0	1.0	-0.4	0.2
% Employment income	-89.1	81.9	-3.4	22.3
% Gov't transfer payments	-32.4	19.7	0.8	7.8
% Other income	-44.3	24.6	-4.6	9.4
% Agriculture	-81.4	42.5	-6.4	15.6
LF Participation rate 15+	-48.2	56.6	0.0	12.1
LF Participation rate 15-24	-100.0	100.0	-8.1	27.3
LF Participation rate Females 15+	-63.8	84.4	2.0	16.8
% Commute Outside CSD	-46.6	51.9	1.5	15.0
% Built Last 5 Years	-20.0	16.7	-1.1	6.0
Change in Average Dwelling Value $	-175000	227324	7972	33713

Agricultural communities (from the 1991 classification) collectively experienced a 20.3% decline in population over the 10-year period. This is largely attributed to declines in people age 0-14 and 25-44. There was an increase in the relative share of the population age 45-64 and also 65 and over, through this time period. As a result, youth dependency ratios declined and elderly dependency ratios increased. There was a decrease in the share of income from employment and from other sources. The average decline in the share of the labour force working in agriculture was 6.4%. Labour force participation rates declined significantly among those aged 15-24. There was a small increase in the percent of the labour force commuting to other communities for work.

Table B-2 Percent Change in Socio-Economic Variables, 1991-2001, Fishing Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=21)	SD
% Pop'n change	-65.1	-1.4	-30.1	18.1
% Pop'n 0-14	-15.5	1.1	-6.3	3.9
% Pop'n 15-24	-12.4	.2	-5.3	3.4
% Pop'n 25-44	-24.2	8.5	-3.0	7.6
% Pop'n 45-64	-.7	28.8	11.6	7.5
% Pop'n 65+	-.5	13.5	2.8	3.0
% Pop'n Male	-4.3	2.9	-1.3	1.9
% Lone parent families	-12.5	23.1	2.4	9.2
% One-person households	-14.3	18.2	4.6	7.0
% families with children	-60.0	18.3	-10.9	16.8
Youth dependency ratio	-27.6	6.7	-10.3	7.1
Elderly dependency ratio	-2.9	26.7	3.6	6.0
% 5-year mover	-14.8	25.0	1.5	10.8
% Youth Out-migration	-.8	-.3	-0.5	0.1
% Employment income	-63.1	61.4	-2.3	32.0
% Gov't transfer payments	-49.9	41.1	-9.4	23.0
% Other income	-11.5	12.0	2.1	6.1
% Fishing	-60.0	68.2	-23.1	30.4
LF Participation rate 15+	-44.2	24.2	-6.0	15.4
LF Participation rate 15-24	-100.0	6.6	-24.0	28.2
LF Participation rate Females 15+	-46.4	37.1	-2.7	21.4
% Commute Outside CSD	-52.9	100.0	6.5	39.1
% Built Last 5 Years	-66.7	33.3	-8.3	18.9
Change in Average Dwelling Value $	-40633	107883	7290	29763

Fishing communities (from the 1991 classification) collectively experienced a 30.1% decline in population over the 10-year period. There were large declines in the relative share of the population in all age groups under 45 years, and a large increase in the share of the population in the older age groups. As a result, youth dependency ratios declined and elderly dependency ratios increased. The share of families with children declined 10.9% on average. There was very little change in the percent of the population new to the community (5-year movers) and very little youth out-migration. The share of income from government transfer payments declined significantly. The average decline in the share of the labour force working in fishing was 23.1%. This may be a reflection of the many areas affected by groundfish closures in the 1990s. Labour force participation rates declined significantly among those aged 15-24, and also declined for the entire labour force, and for females. There was an increase in the percent of the labour force commuting to other communities for work. The percent of dwellings constructed in the five years prior to the census had declined on average by 8.3% compared to the situation in 1991.

Table B-3 Percent Change in Socio-Economic Variables, 1991-2001, Forestry Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=9)	SD
% Pop'n change	-28.2	-4.2	-16.0	8.7
% Pop'n 0-14	-14.2	.1	-5.6	4.9
% Pop'n 15-24	-7.2	5.5	-0.5	4.2
% Pop'n 25-44	-14.1	10.4	-3.2	6.7
% Pop'n 45-64	-13.2	19.0	6.1	9.2
% Pop'n 65+	-3.6	10.0	3.7	4.7
% Pop'n Male	-3.2	1.1	-0.8	1.3
% Lone parent families	-.4	7.9	2.6	3.3
% One-person households	-1.5	10.6	5.6	4.2
% families with children	-14.0	19.3	-0.1	11.9
Youth dependency ratio	-25.9	.0	-10.0	8.8
Elderly dependency ratio	-6.4	16.7	5.1	7.5
% 5-year mover	-14.8	13.5	1.8	10.2
% Youth Out-migration	-.8	.0	-0.4	0.2
% Employment income	-63.9	25.7	2.2	26.5
% Gov't transfer payments	-33.3	.0	-13.0	12.1
% Other income	-4.5	5.3	-0.2	3.0
% Forestry	-36.9	9.4	-22.1	14.8
LF Participation rate 15+	-16.7	20.5	2.1	12.9
LF Participation rate 15-24	-66.7	36.7	-7.5	37.0
LF Participation rate Females 15+	-7.4	27.5	5.7	12.1
% Commute Outside CSD	-24.6	49.4	4.3	25.1
% Built Last 5 Years	-28.1	9.5	-6.4	11.7
Change in Average Dwelling Value $	-437	26416	9573	8385

Forestry communities (from the 1991 classification) collectively experienced a 16% decline in population over the following 10-year period. This is largely attributed to declines in people aged 0-14 and 25-44. There was an increase in the relative share of the population aged 45-64 and also 65 years and over, through this time period. As a result, youth dependency ratios declined and elderly dependency ratios increased. The share of households classified as one-person households increased, on average, by 5.6%. The share of family households which are lone parent families increased by 2.6% over the 10-year period. There were slightly more people, on average, moving into forestry communities in the 5 years prior to the 2001 census, compared to the same period prior to the 1991 census. There was a modest increase in the share of income from employment, while there was a large decline in the average share of income from government transfer payments. The average decline in the share of the labour force working in forestry was 22.1%. Labour force participation rates declined among those aged 15-24, but increased among females aged 15 and over. There was a small increase in the percent of the labour force commuting to other communities. The percent of dwellings constructed in the five years prior to the census had declined on average by 6.4% compared to the situation in 1991.

Table B-4 Percent Change in Socio-Economic Variables, 1991-2001, Mining Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=23)	SD
% Pop'n change	-290.1	-2.7	-55.1	81.0
% Pop'n 0-14	-13.9	10.3	-5.2	4.6
% Pop'n 15-24	-14.1	5.7	-2.0	4.5
% Pop'n 25-44	-24.0	2.1	-6.9	5.5
% Pop'n 45-64	-5.3	29.3	10.8	7.2
% Pop'n 65+	-9.0	23.7	3.4	5.5
% Pop'n Male	-3.3	3.7	-0.7	1.5
% Lone parent families	-7.7	13.5	3.2	4.8
% One-person households	-5.1	9.7	3.5	3.3
% families with children	-34.6	43.8	-1.7	14.7
Youth dependency ratio	-17.9	16.2	-8.5	7.1
Elderly dependency ratio	-13.2	38.5	4.8	8.9
% 5-year mover	-37.4	17.5	-8.8	11.9
% Youth Out-migration	-.9	.0	-0.4	0.2
% Employment income	-94.9	2.6	-8.5	20.1
% Gov't transfer payments	-3.4	18.2	2.4	4.6
% Other income	-3.0	14.5	1.7	4.0
% Forestry	-46.0	11.0	-14.0	15.5
LF Participation rate 15+	-31.4	24.6	-1.8	11.2
LF Participation rate 15-24	-72.7	10.5	-12.5	20.8
LF Participation rate Females 15+	-33.3	38.0	1.1	14.4
% Commute Outside CSD	-34.8	23.6	1.7	13.3
% Built Last 5 Years	-33.4	6.2	-4.6	9.3
Change in Average Dwelling Value $	-22377	98777	8369	25430

Mining communities (from the 1991 classification) collectively experienced a 55% decline in population over the 10-year period (largely driven by significant declines in Tumbler Ridge BC and Faro YT). This is largely attributed to declines in age 0-14 and 25-44 groups. There was an increase in the relative share of the population aged 45-64, and also 65 years and over, through this time period. As a result, youth dependency ratios declined and elderly dependency ratios increased. The share of households classified as one-person households increased, on average, by 3.5%. The share of family households which are lone parent families increased by 3.2% over the 10-year period. There were fewer people, on average, moving into mining communities in the 5 years prior to the 2001 census, compared to the same period prior to the 1991 census (8.8% fewer). There was a large decline in the average share of income from employment, while there was a small increase in the average share of income from government transfer payments. The average decline in the share of the labour force working in forestry was 14%. Labour force participation rates declined among those aged 15-24, but increased among females aged 15 and over. There was a small increase in the percent of the labour force commuting to other communities for employment, as people attempted to stay in their home communities while seeking working elsewhere. The percent of dwellings constructed in the five years prior to the census had declined on average by 4.6% compared to the situation in 1991.

Table B-5 Percent Change in Socio-Economic Variables, 1991-2001, Tourism Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=6)	SD
% Pop'n change	-40.0	-6.2	-22.8	12.9
% Pop'n 0-14	-15.0	2.0	-7.2	5.8
% Pop'n 15-24	-12.6	.2	-6.6	4.2
% Pop'n 25-44	-8.3	3.0	-2.9	4.3
% Pop'n 45-64	-6.9	14.9	4.6	8.8
% Pop'n 65+	-.5	43.8	13.2	15.6
% Pop'n Male	-4.5	.6	-1.7	1.7
% Lone parent families	.0	50.0	10.8	19.7
% One-person households	-1.7	19.4	8.9	6.8
% families with children	-5.3	85.7	23.7	35.0
Youth dependency ratio	-25.0	3.3	-10.3	9.4
Elderly dependency ratio	.0	100.0	26.2	36.8
% 5-year mover	-16.1	17.7	-1.0	12.3
% Youth Out-migration	-.8	-.2	-0.6	0.2
% Employment income	-10.9	75.4	10.4	32.1
% Gov't transfer payments	.0	14.8	4.3	6.1
% Other income	-.2	10.0	2.3	4.1
% Tourism	-100.0	1.5	-28.7	37.7
LF Participation rate 15+	-22.9	62.1	8.1	30.0
LF Participation rate 15-24	-100.0	77.8	-17.3	69.6
LF Participation rate Females 15+	-72.7	31.8	-4.2	36.0
% Commute Outside CSD	-62.5	11.5	-27.8	25.8
% Built Last 5 Years	-7.7	7.4	0.0	4.8
Change in Average Dwelling Value $	-1449	40880	14926	14500

Tourism communities (from the 1991 classification) collectively experienced a 22.8% decline in population over the following 10-year period. There were declines all age groups under 44, but very large increases in the relative share of the population aged 45-64 and 65 years and over, through this time period. As a result, youth dependency ratios declined while elderly dependency ratios increased. The share of households classified as one-person households increased, on average by 8.9%, while the share of families with children increased by 23.7% on average. The share of family households which are lone parent families increased by 10.8% over the 10-year period. There were fewer people, on average, moving into tourism communities in the 5 years prior to the 2001 census, compared to the period prior to the 1991 census (1.0% fewer). There were modest increases in the average share of income from employment, the average share of income from government transfer payments, and the average share of income from other sources. The average decline in the share of the labour force working in tourism was 28.7%. Many of the communities which were originally tourism communities in 1991 shifted to other sectors in terms of share of the labour force working in other sectors. Labour force participation rates declined among those aged 15-24, but increased among the labour force as a whole. There was a large decrease in the percent of the labour force commuting to other communities, as the economy diversified and expanded in many of these tourism communities. The average value of dwellings rose sharply relative to that in most other types of communities.

Table B-6 Percent Change in Socio-Economic Variables, 1991-2001, Manufacturing Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=90)	SD
% Pop'n change	-86.5	.0	-18.7	17.2
% Pop'n 0-14	-24.6	3.5	-5.4	4.4
% Pop'n 15-24	-15.9	14.6	-2.7	4.7
% Pop'n 25-44	-12.5	5.9	-3.1	3.5
% Pop'n 45-64	-5.2	23.2	8.5	4.9
% Pop'n 65+	-10.7	10.0	2.3	3.5
% Pop'n Male	-6.6	6.0	0.0	2.2
% Lone parent families	-14.3	44.6	3.5	8.6
% One-person households	-2.5	30.0	6.0	5.1
% families with children	-60.0	50.0	-3.2	14.4
Youth dependency ratio	-45.6	12.5	-9.1	8.0
Elderly dependency ratio	-16.9	17.5	2.8	5.8
% 5-year mover	-31.7	52.5	-0.9	11.8
% Youth Out-migration	-.9	.1	-0.4	0.2
% Employment income	-79.5	64.4	-1.7	21.2
% Gov't transfer payments	-41.3	45.3	1.0	12.6
% Other income	-11.5	10.2	1.8	3.9
% Manufacturing	-66.8	45.5	-11.7	19.6
LF Participation rate 15+	-58.3	31.8	-1.7	11.7
LF Participation rate 15-24	-75.0	75.0	-5.4	23.4
LF Participation rate Females 15+	-100.0	43.1	-0.6	16.0
% Commute Outside CSD	-81.6	49.9	-6.0	23.9
% Built Last 5 Years	-38.9	13.3	-3.8	8.2
Change in Average Dwelling Value $	-46421	60370	8893	17381

Manufacturing communities (from the 1991 classification) collectively experienced a 18.7% decline in population over the 10-year period. This is not surprising given that many of these are tied to primary sector production such as fish processing(where closures occurred) and forestry (where automation to improve competitiveness resulted in job losses in existing mills). There were declines in the relative share of the population in all age groups under 44, but a large increase in the relative share of the population aged 45-64 and some increase in the 65 years and over age group, through this time period. As a result, youth dependency ratios declined and elderly dependency ratios increased. The share of households classified as one-person households increased, on average by 6.0%, while the share of families with children decreased. The share family households which are lone parent families increased by 3.5% over the 10-year period. There were modest increases in the average share of income from government transfer payments and from other sources. The average decline in the share of the labour force working in manufacturing was 11.7%. Labour force participation rates declined for most classes of workers. There was an average decrease of 6.0% in the percent of the labour force commuting to other communities as there were likely few employment opportunities in these neighbouring communities.

Table B-7 Percent Change in Socio-Economic Variables, 1991-2001, Dynamic Services Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=27)	SD
% Pop'n change	-60.7	-1.5	-23.4	16.1
% Pop'n 0-14	-12.5	6.1	-4.7	4.2
% Pop'n 15-24	-7.4	10.3	0.2	4.4
% Pop'n 25-44	-10.5	5.5	-3.8	4.3
% Pop'n 45-64	-6.1	15.1	5.8	4.9
% Pop'n 65+	-12.0	28.8	1.6	7.4
% Pop'n Male	-10.3	18.3	-0.2	4.4
% Lone parent families	-8.3	18.9	1.9	6.1
% One-person households	-8.3	14.4	4.1	5.8
% families with children	-25.5	30.0	-2.7	13.0
Youth dependency ratio	-21.0	10.8	-8.8	7.7
Elderly dependency ratio	-24.3	58.3	1.9	14.7
% 5-year mover	-47.1	19.6	-6.8	16.2
% Youth Out-migration	-.8	.5	-0.3	0.3
% Employment income	-80.4	83.8	0.4	37.2
% Gov't transfer payments	-19.3	20.1	-1.0	9.2
% Other income	-14.9	16.4	0.7	6.9
% Dynamic Services	-66.7	9.1	-15.4	19.5
LF Participation rate 15+	-23.3	30.9	5.0	11.4
LF Participation rate 15-24	-100.0	100.0	-0.7	41.1
LF Participation rate Females 15+	-28.6	62.5	11.2	19.1
% Commute Outside CSD	-78.4	100.0	5.3	27.9
% Built Last 5 Years	-20.0	15.4	-3.9	7.8
Change in Average Dwelling Value $	-41172	34172	5183	16482

Dynamic services communities (from the 1991 classification) collectively experienced a 23.4% decline in population over the 10-year period. There were declines in the relative share of the population aged 0-14 and 25-44, but an increase in the relative share of the population aged 45-64, through this time period. As a result, youth dependency ratios declined considerably. There were fewer people, on average, who moved into these communities in the 5 years prior to the 2001 census, compared to those in the same period prior to the 1991 census. The average decline in the share of the labour force working in dynamic services was 15.4%, reflective of the fact that many of these communities shifted over the 10-year period to be something other than dynamic services communities, based on the distribution of the labour force across all sectors. Labour force participation rates increased for all classes of workers. There was a decline in the share of the housing stock built in the five years prior to each census period. Average dwelling values did not increase much when compared to other sectors.

Table B-8 Percent Change in Socio-Economic Variables, 1991-2001, Non-Market Services Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=143)	SD
% Pop'n change	-158.7	.0	-15.3	18.6
% Pop'n 0-14	-21.4	13.0	-4.1	4.0
% Pop'n 15-24	-16.2	7.5	-1.8	3.8
% Pop'n 25-44	-28.0	16.7	-2.7	5.3
% Pop'n 45-64	-6.8	20.8	6.4	5.0
% Pop'n 65+	-6.3	15.1	2.2	3.7
% Pop'n Male	-17.1	8.8	-0.9	2.9
% Lone parent families	-33.3	43.3	3.3	10.7
% One-person households	-12.5	52.4	4.5	6.9
% families with children	-80.0	54.5	0.7	15.6
Youth dependency ratio	-32.1	35.7	-7.2	8.4
Elderly dependency ratio	-15.1	27.2	2.7	6.8
% 5-year mover	-48.9	35.1	-4.6	12.9
% Youth Out-migration	-.9	.5	-0.3	0.2
% Employment income	-87.4	64.9	-5.5	21.4
% Gov't transfer payments	-47.3	26.1	-1.7	10.6
% Other income	-20.1	16.9	0.3	5.9
% Non-Market Services	-66.7	60.1	-4.7	14.9
LF Participation rate 15+	-24.0	37.1	-0.6	10.8
LF Participation rate 15-24	-100.0	100.0	-4.9	29.5
LF Participation rate Females 15+	-24.4	50.0	2.3	12.2
% Commute Outside CSD	-100.0	80.0	-3.7	23.7
% Built Last 5 Years	-50.0	33.3	-6.8	10.3
Change in Average Dwelling Value $	-150000	103465	12091	25684

Non-market services communities (from the 1991 classification) experienced an average decline of 15.3 of their population over the 10-year period. The average declines in the relative share of the population among those less than 45 years of age, and the average increases in the relative share of the population aged 45-64 were much smaller than in most other communities. The relative share of lone parent family households increased by 3.3% over the 10-year period. The youth dependency ratios did decline on average by 7.2%, and there was an increase in the elderly dependency ratios. There were fewer people, on average, who moved into these communities in the 5 years prior to the 2001 census, compared to the same period prior to the 1991 census. The average decline in the share of the labour force working in non-market services was 4.7%. Labour force participation rates increased for females but declined for all those aged 15-24. There was, however, a large average decline of 6.8% in the share of the housing stock built in the five years prior to each census period. Average dwelling values rose more sharply compared to those in most other sectors.

Table B-9 Percent Change in Socio-Economic Variables, 1991-2001, Retirement Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=30)	SD
% Pop'n change	-80.5	-.1	-15.6	16.3
% Pop'n 0-14	-12.6	14.3	-2.3	5.6
% Pop'n 15-24	-10.3	5.9	-0.1	3.6
% Pop'n 25-44	-6.0	7.8	-0.9	3.7
% Pop'n 45-64	-18.5	15.0	1.5	6.9
% Pop'n 65+	-16.9	26.7	1.3	8.1
% Pop'n Male	-5.3	3.8	-0.3	2.2
% Lone parent families	-20.0	42.9	2.1	11.1
% One-person households	-8.6	30.0	3.1	7.3
% families with children	-66.7	32.1	-1.9	17.9
Youth dependency ratio	-26.0	62.6	-4.2	15.3
Elderly dependency ratio	-62.1	115.7	4.1	31.2
% 5-year mover	-20.9	26.2	0.9	11.2
% Youth Out-migration	-.8	.8	-0.1	0.3
% Employment income	-56.4	25.4	0.1	17.4
% Gov't transfer payments	-20.6	9.7	-1.7	7.0
% Other income	-29.4	6.4	-5.1	7.9
LF Participation rate 15+	-13.2	46.7	6.0	11.9
LF Participation rate 15-24	-100.0	100.0	-9.3	49.1
LF Participation rate Females 15+	-14.4	60.0	7.4	15.2
% Commute Outside CSD	-27.7	32.3	4.1	15.4
% Built Last 5 Years	-13.3	6.1	-3.5	4.6
Change in Average Dwelling Value $	-23078	27703	5032	11955

Retirement communities (from the 1991 classification) experienced a 15.6% decline in population from 1991 to 2001. On average there were almost no changes in the average share of population in each of the age groups. The youth dependency ratios did decline on average by 4.2%, and there was a small increase in the elderly dependency ratios. There was a decline in the share of income from government transfer payments and from other income. Labour force participation rates increased significantly for females (7.4%) but declined on average by almost 9.3% for all those aged 15-24. Average dwelling values rose more modestly compared to those in most other sectors.

Table B-10 Percent Change in Socio-Economic Variables, 1991-2001, Dual Specialization Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=217)	SD
% Pop'n change	-169.1	-.2	-21.5	20.5
% Pop'n 0-14	-23.5	20.6	-3.6	6.0
% Pop'n 15-24	-16.7	20.8	-0.6	5.6
% Pop'n 25-44	-27.0	20.0	-2.2	6.2
% Pop'n 45-64	-19.1	33.3	5.1	7.2
% Pop'n 65+	-26.7	30.9	0.8	6.2
% Pop'n Male	-13.3	17.5	-0.1	3.7
% Lone parent families	-22.2	55.6	2.8	11.2
% One-person households	-30.8	40.5	3.6	8.0
% families with children	-80.0	57.1	-0.8	19.0
Youth dependency ratio	-75.0	50.0	-7.6	13.3
Elderly dependency ratio	-47.2	129.2	-0.1	19.4
% 5-year mover	-68.3	74.7	1.1	18.1
% Youth Out-migration	-1.0	2.5	-0.2	0.5
% Employment income	-82.1	84.7	0.4	26.1
% Gov't transfer payments	-57.9	50.2	0.6	13.7
% Other income	-38.2	18.7	-1.9	8.0
LF Participation rate 15+	-60.0	52.4	1.0	17.4
LF Participation rate 15-24	-100.0	100.0	-8.5	38.9
LF Participation rate Females 15+	-100.0	83.3	1.0	23.9
% Commute Outside CSD	-90.5	100.0	-0.2	28.5
% Built Last 5 Years	-40.0	30.0	-2.9	7.9
Change in Average Dwelling Value $	-56179	76019	2763	19242

Dual specialization communities (from the 1991 classification) experienced a 21.5% decline in population from 1991 to 2001. There were modest declines in the share of the population aged 0-44, and an increase in the share aged 45 and over. The share of households which are one-person households increased by 3.6% over the 10-year period. The youth dependency ratios decline on average by 7.6%, but the elderly dependency ratios declined on average by 0.1%. There was a modest increase in the number of people moving into dual specialization communities in the five years prior to the 2001 census compared to those in the same period prior to the 1991 census. Labour force participation rates increased marginally for females (1%) but declined on average by almost 8.5% for all those aged 15-24. Average dwelling values rose much more modestly compared to those in most other sectors.

Table B-11 Percent Change in Socio-Economic Variables, 1991-2001, Non-Specialized Communities (1991 Classification) with 2001 Population 100-4,999 Which Lost Population 1991-2001

Variable (Change in Percent of... 1991-2001)	Min	Max	Mean (n=144)	SD
% Pop'n change	-122.0	.0	-14.5	16.3
% Pop'n 0-14	-22.4	8.1	-5.3	4.2
% Pop'n 15-24	-26.7	7.3	-2.1	4.4
% Pop'n 25-44	-12.1	11.1	-3.2	3.4
% Pop'n 45-64	-2.3	23.3	7.9	4.3
% Pop'n 65+	-11.1	21.9	3.0	3.3
% Pop'n Male	-11.0	11.7	-0.4	2.2
% Lone parent families	-20.0	23.5	3.0	7.2
% One-person households	-9.5	18.9	5.0	4.9
% families with children	-60.0	30.8	-2.6	12.2
Youth dependency ratio	-68.6	26.2	-9.6	9.4
Elderly dependency ratio	-20.0	48.8	3.9	6.8
% 5-year mover	-29.9	51.5	-1.6	12.6
% Youth Out-migration	-.8	.3	-0.3	0.2
% Employment income	-84.6	77.4	-3.9	19.8
% Gov't transfer payments	-37.3	44.0	-1.0	9.9
% Other income	-15.9	21.7	1.4	5.2
LF Participation rate 15+	-37.1	52.6	-0.7	11.8
LF Participation rate 15-24	-100.0	100.0	-2.9	27.6
LF Participation rate Females 15+	-27.1	83.3	2.7	13.6
% Commute Outside CSD	-77.9	80.0	-4.0	19.9
% Built Last 5 Years	-23.4	25.0	-2.8	7.3
Change in Average Dwelling Value $	-62554	86128	10489	19329

Non-specialized communities (from the 1991 classification) experienced a 14.5% decline in population from 1991 to 2001. There were modest declines in the share of the population in age groups less than 45, but an increase in the share aged 45-64. The share of one-person households increased by 5% over the 10-year period. The youth dependency ratios declined on average by 9.6%, but the elderly dependency ratios increased on average by 3.9%. Labour force participation rates increased for females (2.7%) but declined on average by 2.9% for all those age 15-24. Average dwelling values rose higher in this time period compared to those in most other sectors.

Appendix C - Summary Tables Showing Direction of Change for Each Socio-Economic Characteristic for Each Economic Sector for Each Stage of Economic Development Activity

The following notation applies to all tables in Appendix C:

- There is no start up column included in these tables. Very few communities have emerged since the beginning of the 1980s. Instead, it is more useful to focus on the directionality of characteristics as small places move through growth, plateau, and decline stages.
- For each subsequent phase we are using 'increase', 'decrease', or 'stable' for each characteristic.
- For characteristics which are not important as socio-economic indicators in a particular phase, we denote this with 'X'.
- Alternative futures will be explored in Phase IV of this project.

No tables are provided for dual specialization communities and non-specialized communities because of the complexity associated with these communities. For example, the characteristics of dual specialization communities will vary depending upon which two economic sectors are driving these places. In non-specialized communities, there may be a wide range of possibilities in the economic composition of these places, making it difficult to outline any specific characteristics.

Table C-1 Direction Change in Characteristics as Indicators of Stage of Economic Development Activity for Agricultural Communities 50 to 4,999 Population, and Weak or No MIZ

Characteristics	Growth	Plateau	Decline
% Pop'n change	increase	stable	decrease
% Pop'n 0-14	increase	stable	decrease
% Pop'n 15-24	increase	decrease	decrease
% Pop'n 25-44	increase	stable	decrease
% Pop'n 45-64	X	stable	increase
% Pop'n 65+	X	increase	increase
% Pop'n Male	increase	X	X
% Lone parent families	X	X	X
% One-person households	X	X	increase
% families with children	increase	stable	decrease
Youth dependency ratio	increase	stable	decrease
Elderly dependency ratio	X	increase	increase
% 5-year mover	X	X	X
% Youth Out-Migration	X	increase	increase
% Employment income	increase	stable	decrease
% Gov't transfer payments	X	increase	increase
% Other income	X	increase	increase
% Agriculture	increase	stable	decrease
LF Participation rate 15+	increase	stable	decrease
LF Participation rate 15-24	increase	stable	decrease
LF Participation rate Females 15+	increase	stable	increase
% Commute Outside CSD	X	X	increase
% Built Last 5 Years	increase	X	decrease
Change in Average Dwelling Value $	increase	X	decrease

Note: X indicates characteristics which are not important socio-economic indicators for a particular phase.

It is important to remember that characteristics will depend upon the length of the cycle of the

community. An agricultural community may plateau for a long period of time, giving it a chance to develop an aging population that may increase the government transfer payments and other sources of income. It is also difficult to comment on the startup phases of agricultural communities since many of these places developed prior to World War II when gender employment opportunities, commuting patterns, and government transfer policies were either quite different or none existent.

The geography of female employment may also be complex during times of restructuring. As noted in Section 4.0, previous studies have described increases in female labour force participation during declines in agricultural communities in order to support family farm income. What is unclear, however, is if this leads to an increase in commuting patterns outside of the CSD to places that may offer more employment opportunities.

Table C-2 Direction Change in Characteristics as Indicators of Stage of Economic Development Activity for Fishing Communities 50 to 4,999 Population, and Weak or No MIZ

Characteristics	Growth	Plateau	Decline
% Pop'n change	increase	stable	decrease
% Pop'n 0-14	increase	increase	decrease
% Pop'n 15-24	increase	decrease	decrease
% Pop'n 25-44	increase	stable	decrease
% Pop'n 45-64	X	increase	increase
% Pop'n 65+	X	increase	increase
% Pop'n Male	decrease	stable	decrease
% Lone parent families	X	X	increase
% One-person households	X	stable	increase
% families with children	increase	increase	decrease
Youth dependency ratio	increase	increase	decrease
Elderly dependency ratio	stable	increase	increase
% 5-year mover	increase	decrease	X
% Youth Out-Migration	increase	increase	increase
% Employment income	increase	stable	decrease
% Gov't transfer payments	X	increase	increase
% Other income	X	X	increase
% Fishing	increase	decrease	decrease
LF Participation rate 15+	increase	stable	decrease
LF Participation rate 15-24	increase	stable	decrease
LF Participation rate Females 15+	increase	stable	decrease
% Commute Outside CSD	X	X	increase
% Built Last 5 Years	increase	stable	decrease
Change in Average Dwelling Value $	Increase	stable	decrease

Note: X indicates characteristics which are not important socio-economic indicators for a particular phase.

Similar to agricultural communities, is it difficult to comment on the startup phase of fishing communities, since many of these places also developed well before World War II when transportation infrastructure, policies, and employment opportunities were quite different from today.

Table C-3 Direction Change in Characteristics as Indicators of Stage of Economic Development Activity for Forestry Communities 50 to 4,999 Population, and Weak or No MIZ

Characteristics	Growth	Plateau	Decline
% Pop'n change	increase	stable	decrease
% Pop'n 0-14	increase	stable	decrease
% Pop'n 15-24	increase	decrease	decrease
% Pop'n 25-44	increase	stable	decrease
% Pop'n 45-64	X	increase	increase
% Pop'n 65+	X	increase	increase
% Pop'n Male	decrease	X	stable
% Lone parent families	increase	X	increase
% One-person households	X	stable	increase
% families with children	increase	increase	decrease
Youth dependency ratio	increase	stable	decrease
Elderly dependency ratio	X	increase	increase
% 5-year mover	increase	X	X
% Youth Out-Migration	X	increase	increase
% Employment income	increase	stable	decrease
% Gov't transfer payments	X	increase	increase
% Other income	X	increase	increase
% Forestry	increase	stable	decrease
LF Participation rate 15+	increase	stable	decrease
LF Participation rate 15-24	increase	stable	decrease
LF Participation rate Females 15+	increase	stable	decrease
% Commute Outside CSD	X	stable	increase
% Built Last 5 Years	increase	stable	decrease
Change in Average Dwelling Value $	increase	stable	decrease

Note: X indicates characteristics which are not important socio-economic indicators for a particular phase.

It is important to acknowledge that commuting patterns may be high 'into' forestry communities during construction of new town sites and early operations. There will, however, be little commuting from forestry towns to other CSDs during these early phases. Furthermore, forestry towns have experienced changes in transportation infrastructure and production technology that have impacted these characteristics across each of the development phases.

Table C-4 Direction Change in Characteristics as Indicators of Stage of Economic Development Activity for Mining Communities, 50 to 4,999 Population, and Weak or No MIZ

Characteristics	Growth	Plateau	Decline
% Pop'n change	increase	stable	decrease
% Pop'n 0-14	increase	stable	decrease
% Pop'n 15-24	increase	decrease	decrease
% Pop'n 25-44	increase	stable	decrease
% Pop'n 45-64	X	increase	increase
% Pop'n 65+	X	stable	increase
% Pop'n Male	decrease	stable	increase
% Lone parent families	increase	stable	increase
% One-person households	X	stable	increase
% families with children	increase	increase	decrease
Youth dependency ratio	increase	increase	decrease
Elderly dependency ratio	X	increase	increase
% 5-year mover	increase	decreasing	X
% Youth Out-Migration	increase	increase	increase
% Employment income	increase	stable	decrease
% Gov't transfer payments	X	increase	increase
% Other income	X	increase	increase
% Mining	stable	stable	decrease
LF Participation rate 15+	increase	stable	decrease
LF Participation rate 15-24	increase	stable	decrease
LF Participation rate Females 15+	increase	stable	decrease
% Commute Outside CSD	decrease	stable	increase
% Built Last 5 Years	increase	stable	decrease
Change in Average Dwelling Value $	increase	stable	decrease

Note: X indicates characteristics which are not important socio-economic indicators for a particular phase.

In 'instant' mining towns, the percentage employed in mining will be high during the startup and early operations. However, employment in construction will also be high. Furthermore, as growth occurs, mining becomes the dominant local employer. Nevertheless, other support services evolve, which provide important employment opportunities for women. Therefore, the percentage of the labour force in mining may appear to be stable during growth as other sectors develop despite the fact that mines may be hiring additional crews or expanding operations.

As with forestry communities, commuting may be high during the construction and early operation of mining towns. These places will also experience high labour turnover depending on their proximity to other places. Moreover, trends with government transfers and an aging population will depend upon the length of the community life cycle, which may be determined by the size of the mine deposit and commodity prices.

Table C-5 Direction Change in Characteristics as Indicators of Stage of Economic Development Activity for Tourism Communities 50 to 4,999 Population, and Weak or No MIZ

Characteristics	Growth	Plateau	Decline
% Pop'n change	increase	stable	decrease
% Pop'n 0-14	increase	stable	decrease
% Pop'n 15-24	Increase	increase	decrease
% Pop'n 25-44	increase	stable	decrease
% Pop'n 45-64	X	increase	increase
% Pop'n 65+	X	increase	increase
% Pop'n Male	X	X	X
% Lone parent families	X	X	X
% One-person households	X	increase	increase
% families with children	increase	decrease	decrease
Youth dependency ratio	increase	stable	decrease
Elderly dependency ratio	increase	stable	increase
% 5-year mover	increase	increase	X
% Youth Out-Migration	X	decrease	decrease
% Employment income	increase	stable	decrease
% Gov't transfer payments	X	increase	increase
% Other income	X	Increase	decrease
% Tourism	increase	stable	decrease
LF Participation rate 15+	increase	stable	decrease
LF Participation rate 15-24	increase	increase	decrease
LF Participation rate Females 15+	increase	stable	decrease
% Commute Outside CSD	X	X	increase
% Built Last 5 Years	increase	stable	decrease
Change in Average Dwelling Value $	increase	increase	decrease

Note: X indicates characteristics which are not important socio-economic indicators for a particular phase.

Depending on the tourism activity, tourism communities can have either a youth-oriented population or an older oriented population. This will have implications for youth and elderly dependency ratios. Government transfers and other income may become high as tourism places start up and begin to attract seniors to these places. Also, tourism towns may have the infrastructure to become bedroom communities even as they decline so commuting levels may be strong during decline periods as the communities embark on transition. On the other hand, as tourism towns grow, they may also attract commuters and telecommuters who prefer to stay in these places with amenities.

Table C-6 Direction Change in Characteristics as Indicators of Stage of Economic Development Activity for Manufacturing Communities 50 to 4,999 Population, and Weak or No MIZ

Characteristics	Growth	Plateau	Decline
% Pop'n change	increase	stable	decrease
% Pop'n 0-14	increase	stable	decrease
% Pop'n 15-24	increase	decrease	decrease
% Pop'n 25-44	increase	stable	decrease
% Pop'n 45-64	stable	increase	increase
% Pop'n 65+	stable	increase	increase
% Pop'n Male	decrease	stable	stable
% Lone parent families	X	X	increase
% One-person households	decrease	stable	increase
% families with children	increase	increase	decrease
Youth dependency ratio	increase	stable	decrease
Elderly dependency ratio	stable	increase	increase
% 5-year mover	increase	decrease	X
% Youth Out-Migration	X	increase	increase
% Employment income	increase	stable	decrease
% Gov't transfer payments	stable	increase	increase
% Other income	stable	increase	increase
% Manufacturing	increase	stable	decrease
LF Participation rate 15+	increase	stable	decrease
LF Participation rate 15-24	increase	stable	decrease
LF Participation rate Females 15+	increase	stable	decrease
% Commute Outside CSD	X	stable	increase
% Built Last 5 Years	increase	stable	decrease
Change in Average Dwelling Value $	increase	stable	decrease

Note: X indicates characteristics which are not important socio-economic indicators for a particular phase.

Manufacturing communities may also be difficult to interpret. Forestry and agricultural manufacturing communities may be more stable. However, canneries are seasonal and such seasonal employment may generate high turnover in the population and impact government transfers for 'fish processing' communities captured under the manufacturing label.

Table C-7 Direction Change in Characteristics as Indicators of Stage of Economic Development Activity for Dynamic Services Communities 50 to 4,999 Population, and Weak or No MIZ

Characteristics	Growth	Plateau	Decline
% Pop'n change	increase	stable	decrease
% Pop'n 0-14	increase	X	decrease
% Pop'n 15-24	increase	X	decrease
% Pop'n 25-44	increase	X	decrease
% Pop'n 45-64	increase	increase	increase
% Pop'n 65+	X	increase	increase
% Pop'n Male	X	X	X
% Lone parent families	X	X	X
% One-person households	increase	X	increase
% families with children	increase	increase	decrease
Youth dependency ratio	decrease	stable	decrease
Elderly dependency ratio	decrease	increase	increase
% 5-year mover	increase	stable	X
% Youth Out-Migration	X	increase	increase
% Employment income	increase	stable	decrease
% Gov't transfer payments	X	X	increase
% Other income	increase	stable	increase
% Dynamic Services	increase	stable	decrease
LF Participation rate 15+	increase	stable	decrease
LF Participation rate 15-24	X	X	X
LF Participation rate Females 15+	increase	stable	decrease
% Commute Outside CSD	increase	stable	increase
% Built Last 5 Years	increase	stable	increase
Change in Average Dwelling Value $	increase	stable	decrease

Note: X indicates characteristics which are not important socio-economic indicators for a particular phase.

The dynamic services communities do not have as long of a life span as some of the other community types. As these places grow, they may transform into something else or compliment additional development in other sectors. Dynamic services communities encompass a wide range of services from transportation and wholesale services to financial and real estate services. Some of these dynamic services will be friendlier to female employment.

Table C-8 Direction Change in Characteristics as Indicators of Stage of Economic Development Activity for Non-Market Communities 50 to 4,999 Population, and Weak or No MIZ

Characteristics	Growth	Plateau	Decline
% Pop'n change	increase	stable	decrease
% Pop'n 0-14	increase	X	decrease
% Pop'n 15-24	increase	X	decrease
% Pop'n 25-44	increase	X	decrease
% Pop'n 45-64	X	increase	increase
% Pop'n 65+	X	increase	increase
% Pop'n Male	X	X	X
% Lone parent families	X	X	X
% One-person households	increase	increase	increase
% families with children	increase	X	decrease
Youth dependency ratio	increase	increase	decrease
Elderly dependency ratio	X	increase	stable
% 5-year mover	increase	X	X
% Youth Out-Migration	X	increase	increase
% Employment income	stable	X	X
% Gov't transfer payments	stable	increase	increase
% Other income	stable	increase	increase
% Non-market Services	increase	stable	decrease
LF Participation rate 15+	X	X	X
LF Participation rate 15-24	X	X	X
LF Participation rate Females 15+	increase	stable	decrease
% Commute Outside CSD	X	X	increase
% Built Last 5 Years	increase	stable	decrease
Change in Average Dwelling Value $	increase	stable	decrease

Note: X indicates characteristics which are not important socio-economic indicators for a particular phase.

Non-market service communities include an emphasis upon a broad range of public services. These may include municipal, provincial, federal, health, and educational services. These types of communities will not typically experience a construction period as part of its start up phase, except in northern places where resettlement took place.

Table C-9 Direction Change in Characteristics as Indicators of Stage of Economic Development Activity for Retirement Communities 50 to 4,999 Population, and Weak or No MIZ

Characteristics	Growth	Plateau	Decline
% Pop'n change	increase	stable	decrease
% Pop'n 0-14	X	X	X
% Pop'n 15-24	X	X	X
% Pop'n 25-44	increase	stable	decrease
% Pop'n 45-64	increase	stable	decrease
% Pop'n 65+	increase	increase	decrease
% Pop'n Male	X	X	X
% Lone parent families	X	X	X
% One-person households	X	increase	Increase
% families with children	decrease	decrease	X
Youth dependency ratio	X	X	X
Elderly dependency ratio	increase	increase	decrease
% 5-year mover	X	X	X
% Youth Out-Migration	X		X
% Employment income	X	X	decrease
% Gov't transfer payments	increase	increase	stable
% Other income	increase	increase	stable
LF Participation rate 15+	increase	stable	decrease
LF Participation rate 15-24	X	X	X
LF Participation rate Females 15+	increase	stable	decrease
% Commute Outside CSD	X	X	X
% Built Last 5 Years	increase	increase	decrease
Change in Average Dwelling Value $	increase	increase	decrease

Note: X indicates characteristics which are not important socio-economic indicators for a particular phase.

It is important to note that female labour participation may be of interest in retirement communities that provide service oriented jobs to serve an older population that are generally held by women.

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