A Region in Transition: The Role of Networks, Capitals and Conflicts in the Rainy River District, Ontario.

by

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

This research analyzed decline in a rural region, and explored its central features from the perspective of local actors using several qualitative and participatory techniques. This work disengages from traditional demographic-economic analysis of decline and offers an alternative for understanding rural decline caused by internal and external forces of change. The analysis centers on networks, diverse forms of capitals and conflicts. Literature on regional economic development, New Regionalism, social networks, capital, social conflicts, and complex evolving social systems informed the conceptual framework to guiding this research. The research is based on the case of the Rainy River District (RRD), in Northwestern Ontario, that is typical of the Canadian middle north. This exploratory and qualitative research was guided by interpretivist philosophy and applied multiple methodologies which included a literature and documental review, semi-structured interviews, focus groups, network mapping, and group model building. Considering the importance of relational data, particular importance was given to exploring the problem of decline through the analysis of social, economic, political and environmental networks, conflicts and forms of capital in order to find diverse motivations, causes, effects and feedbacks, as well as responses to decline from the perspective of local actors.

Five findings indicate that the conceptual framework of this research helped to explain the complex and network-based nature of decline of resource-based communities, and the roles of networks, capital and conflicts. First, the analysis demonstrated that economic-demographic "size type" indicators are insufficient to explain the complex, multidimensional, network-based, conflictive and highly politicized nature of decline. Public policies based on these "size- type" of indicators are misleading and can reinforce the path dependence process of single-industry rural communities. Second, the application of the conceptual framework at a regional scale demonstrated that networks, capital and conflicts can be significant in the process of decline. They can speed or slow the process of change. Potentially, they can be transformed and used when planning for decline so as to steer the process toward sustainable rural planning and development. Third, decline should be recognized in order to start a process of planning for decline and rural development. Top-down planning and policy initiatives in the Rainy River District and across North Western Ontario have not recognized a general planning gap and have glossed over the need to approach decline, and rural development generally, using a local perspective and grassroots initiatives of people and communities. Fourth, rural regions, ethnicity, and political and economic power, are insufficiently recognized by New Regionalism theory. Including these elements can benefit the theory and practice of rural planning and development. The structural and relational qualities of networks, capital, and conflicts are transmitted

to the problem of decline; so that the study of decline is a fruitful field for crosspollination of these theories. Analysis of networks and planning is a mutually reinforcing approach, useful for the study and planning of rural areas. Finally, rural decline studies in Canada should pay attention to factors of ethnicity. Significant structural violence against First Nations remains in rural regions.

This research makes five contributions. The first is a conceptual framework capable of guiding research and practice by local actors in declining rural resource-based communities. The frameworks of networks, capital and conflicts capture the complex and dynamic nature of decline and work as methodological and interpretative tools to study and approach decline in rural regions. Second, a multidimensional reading of a declining rural region captures the complexity of the problem of decline, its multidimensional and multi-scalar nature, and facilitates identification of historical factors and regional reorganizations that explain decline. Third, this research verified the factors of primary economic sector uncertainty and instability, suggested by Krannich & Luloff (1991:9), as well as quantitative economic and demographic factors suggested by Bourne, (2003a; , 2003b), and Polese and Shearmur(2006). All of these work as limiting factors in the capacity of rural communities to respond sustainably to decline. Five other factors are proposed for this framework: learning, interaction, cooperation, connectivity, and psychological and institutional factors restricting rural communities from reacting to decline, and escaping from path dependence. Finally, this research found that the role of ethnicity in the rural development of this declining region in a developed economy context is significant. Studies of decline and rural regional development need to be tuned up to recognize its importance. Further research is needed to explore and compare declining regions in countries with developed and developing economies along with the role of networks, capital and conflicts in the process of rural development.

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List of Abbreviations

RRD – Rainy River District

MNR – Ontario Ministry of Natural Resources

MMAH – Ministry of Municipal Affairs and Housing

Fednor - The Federal Economic Development Initiative of Northern Ontario

OMAFRA - Ontario Ministry of Agriculture Food and Rural Affairs

MNDM – Ministry of Northern Development, Mines and Forestry

CESS – Complex Evolving Social System

NR – New Regionalism

US – United States of America

EU – European Union

OECD – Organization for Economic Co-operation and Development

NGO – Non Governmental Organization

BSE - Bovine spongiform encephalopathy (mad cow disease)

List of Abbreviations Frequently Used in Network Figures

RRFN – Rainy River First Nations

NFC – Native Friendship Centers

AEDC – Atikokan Economic Development Corporation

RRFDC – Rainy River Futures Development Corporation

NOHFC - Northern Ontario Heritage Found Corporation

MTourism – Ontario Ministry of Tourism

RRFA – Rainy River District Federation of Agriculture

OFA – Ontario Federation of Agriculture

RR Finance – Rainy River Beef Breeder Cooperative

RRAbattoir – Rainy River District Abattoir

RRSoil – Raini River Soil and Crop Improvement Association

RRCattleman – Rainy River District Cattleman Associaiton

AGS – Rainy River Agricultural Society

RRMilk – Rainy River Milk Committee

CVFM – Clover Valley Farmers Market

4H – 4H Association

TC Trail – Trans Canada Trail

TB – Thunder Bay

Trillium – Trillium Foundation

Oberholtzer – Oberholtzer Foundation

OLTA – Ontario Land Trust Alliance

Chapter 1. Research Framework

1.1 Introduction

Decline and growth are parallel phenomena that have historically occurred in the urban fabric of rural and urban regions. Urban decline in The Americas can be traced back to cases of decline triggered by overexploitation of natural resources and war, illustrated by important cases such as Tikal (Honduras), Potosi (Bolivia), and Machu Pichu (Peru). In Europe, other historical causes reported include war, diseases, and disasters causing decline in cities such as Paris, London and Rome (Diamond, 2005; Oswalt & Rieniets, 2006; Tainter, 1988).

In North America, after the Second World War, the number of declining urban centers of all sizes is increasing even though urban growth dominates (Beauregard, 2003; Oswalt & Rieniets, 2006; Seasons, 2007; Statistics Canada, 2007b). The 2008-2009 economic global crisis is further accelerating this transformation and reports of shrinking and declining cities and towns abound (Douglas, 2009; Gray, 2009; Halburn, 2009). In this context, Canada has also experienced a process of transition in urban fabrics as a result of population declines, economic restructuring and post-industrial trends (Bunting & Filion, 2006, , 2000). In particular, there is a widespread decline in resource-based communities generating a sharp geographical contrast between communities in the north and south of Canada (Beshiri & Bollman, 2001; Bourne, 2000; Bourne, Gertler, & Slack, 2003a; McCann & Simmons, 2006).

In Ontario, the problem of decline occurred continuously since the 1980s, particularly in Northwestern Ontario where small cities and towns have been shrinking (Beshiri & Bollman, 2001; Bourne, Gertler, & Slack, 2003a; Mulholland & Vincent, 2005; Rosehart, 2008). To address this problem, the government promotes complex policies such as the 2003 report of the Smart Growth Panel for Northwestern Ontario and Ontario's 2004 Northern Prosperity Plan. Paradoxically, these policy documents do not directly address the issue of declining communities. Similarly, a fascination with growth has concentrated planning research on metropolitan systems thereby glossing over the importance of rural social-ecological systems. In the meantime, growth is becoming unevenly distributed socially, geographically, and by economic sectors, while rural towns, such as those in the Canadian middle north (e.g. Northwestern Ontario) are becoming marginalized, by depopulation and economic decline, as well as socio-economic, fiscal and environmental impacts that compromise their vitality, quality of life and viability (Bollman, Beshiri, & Mitura, 2007; Oswalt & Rieniets, 2006). My research explores this problem and focuses on a regional case study.

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This chapter includes four sections. The first describes the research context, research questions and objectives. The second describes the justifications that guide analysis in this research. The third describes the state of the art in the study of decline. The fourth introduces the research design and methods. Finally, this chapter briefly outlines the rest of the thesis.

1.2 Research Context, Research Questions and Objectives

Diverse drivers of change are facilitating new forms and scales of decline in rural regions, increasing their levels of vulnerability and uncertainty (Oswalt & Rieniets, 2006). Various authors consider that socio-economic conditions in resource-based communities increasingly and adversely have been changing since the 1980s, what constitutes a new stage in the process of rural development in Canada and an increasing polarization between core and peripheral regions, whose differential growth and decline increases inequality. Five forces are mentioned as part of this process (Bollman, 2007; Leadbeater, 1988, 2009; Mulholland & Vincent, 2005; Statistics Canada, 2007a, 2007b, 2008):

- Increasing industrial productivity, as a result of technological advances that substitutes capital by labour in the productive process, causing a decline in employment;
- Concentration of capital and monopoly power in corporations, in part facilitated by government initiatives (e.g. the federal Export Development Corporation), encouraging the mobility of capitals and industries, this increases divergence between regions and negatively impacts local businesses, industries and communities;
- Reduction of the size of all levels of government and privatization of public enterprises, affecting social programs (e.g. education and health), reducing government employment and regional development investments;
- Combination of decreasing accessibility/availability of natural resources (e.g. fisheries), competition associated with international trade, and environmental legal restrictions, affecting the growth of production and consumption; and
- Rapid evolution of sovereign and ownership claims from First Nations communities who reject extensive exploitation and promote new forms of governance of natural resources (e.g. Impacts and Benefits Agreements in mining operations).

Nevertheless, rural communities persist. The federal government defines resource-based communities as having at least 30 percent of employment income derived from any resource industry. In 2001, Canada had approximately 2,000 resource-based communities, of which 804 are based in agriculture, 652 in forestry, 207 in fisheries, 185 in mining, and 142 in energy. These communities

account for approximately 13% of Canada's GDP and 15% of all employment in Canada (NCR, 2006a, 2006b, 2006c).

The literature reports different reactions to the problem of declining communities, such as denial, avoidance and proactive reactions (T. Randall & Lorch, 2007; Rosehart, 2008; Simmons & Bourne, 2007). For example, Dennis Brown, Mayor of Atikokan provides a proactive response to decline:

> When the two iron ore mines closed in 1980 and we lost 1100 jobs, many people thought the town should have died -- but we didn't. We care for our community. The resilience of our citizens amazes me, and together we will continue to work for a vibrant future (As cited in The Rosehart Report, 2008).

This capacity to change during decline, the factors that facilitate or impede this process, and the complex interaction of causes, effects, relationships and structures hidden behind its symptoms are the focus of this research.

Specific questions and objectives are as follows:

Central Question: **Why are small rural communities and towns in Ontario declining?** This question explores the mechanism of decline and what does a better understanding of this decline imply about the nature of suitable responses. The study is based on the rural region of Rainy River District, Ontario, and its resource-based communities and addresses three questions:

1) What are the causes and effects of decline in rural resource-based communities?

2) How can a community plan in a context of decline?

3) How is the process of decline transforming rurality and how are local communities reacting to this change?

Main Objective: The objective of this research is **to contribute to the understanding and study of socio-economic decline in resource-based communities**. In particular, this research is focused on the **construction of a multidimensional interpretation of decline in rural regions and the identification of planning elements to improve the planning process in declining contexts**.

The objective is achieved through exploration of current declining processes in the communities of the Rainy River District. The **Specific research objectives** are:

1) Construction of a multidimensional interpretation of decline in a rural region and the identification of planning elements to improve community planning in a declining context.

2) Development and application of a conceptual framework to guide research and interpret outcomes about the problem of decline in rural regions.

3) Characterization and analysis of the role of conflicts, networks (social, economic, environmental and political) and capitals (social, natural, built and political) in the process of decline of resource based communities.

4) Identification and evaluation of existing planning approaches to decline, local responses, initiatives and forms of adaptation to decline in the case study.

5) Identification of policy and planning implications.

1.3 Justification

Two central arguments justify the research. The first is based on three groups of research gaps (detailed in Chapter 2) identified in the literature about decline in rural regions and rural development in general: a) Studies that focus on decline or shrinkage do not integrate analysis about the dynamics of decline, its network and conflict based structure, and its multidimensionality and multicausality; b) The literature of New Regionalism Theory largely ignores rural regions; c) Research based on Social-Ecological Systems Frameworks is focused primarily on the ecological dimension with less attention to the social subsystem.

The study of declining small communities also provides elements to improve the understanding of evolving socio-economic and planning conditions of rural regions under globalization (Leadbeater, 2009), a justification that is in the planning dimension from the perspective that the urban system is a collection of urban centers of different sizes and roles, nested into diverse regions (urban and rural) and configured as a complex network of functional interrelationships (Bunting & Filion, 2006; Geddes, 1915; Hodge & Robinson, 2001; Ofori, 2007; Sassen, 1991).

1.4 The Study of Decline: State of the Art

The rich small cities and towns research tradition is frequently elaborated in Journals such as *Sociologia Ruralis,* and *Small Town Journal.* In addition, important books have been devoted to the study of small communities (Bell, 2006; Burayidi, 2001; Dane, 1997; Daniels, Keller, Lapping, Daniels, & Segedy, 2007; Hamin, Geigis, & Silka, 2007; Knox & Mayer, 2009; Ofori, 2007; Schaeffer & Loveridge, 2000).

Although the study of decline has received limited attention in the planning literature, Canadian scholars periodically address decline in resource-dependent communities (Alexander, 1981; Barnes & Hayter, 1992; Bourne, Gertler, & Slack, 2003a; Bruce & Lister, 2003; Lucas, 1971; Randall

& Ironside, 1996). In addition, decline has been approached from the perspective of the staple economy and its implications for rural regions (Innes, 1933; Marke, Pierce, Vodden, & Roseland, 2005) as well as through regional spatial models of "heartland-hinterland" and "core-periphery" (McCann, 1987; McCann & Simmons, 2000; Wallace, 2002).

Since the 1980s, studies of decline have pivoted around the idea that the stability of rural communities is a function of its population and the local economy. Factors considered included capital mobility, product-cycles, industrial restructuring, unemployment, plant-closing and migration (Bollman, 1992; Friedrichs, 1993; Wallace, 1992). More recent studies include factors such as remoteness, quality of place, and proximity to metropolitan centers and highways (Bourne, Gertler, & Slack, 2003a; Polèse & Shearmur, 2006; Simmons & Bourne, 2007). Some studies suggest other factors such as technology and global corporations (Freudenburg, 1992; Leadbeater, 1988), and societal trends and historical events (Force, Machlis, & Zhang, 2000). Finally some studies propose typologies of declining communities such as "boom and bust" economies (Baldwin & Duke, 2005; Mawhiney & Pitblado, 1999), "addictive economies" (Freudenburg, 1992), and "communities at risk"(Bourne, Gertler, & Slack, 2003a).

Three elements of the literature about decline stand out: 1) Descriptive explanations of decline i.e. indicators of size; 2) Although decline involves an imbalance among the social, economic and environmental dimensions, the economic-demographic interface has gained attention; 3) In general, previous work describes decline as mono-dimensional, consecutive or linear (cause-effect), staged, and conflict-free process(politically and socially) (Bollman, 2007; Bollman, Beshiri, & Mitura, 2007; Bourne, Gertler, & Slack, 2003a, 2003b; Force, Machlis, & Zhang, 2000; Machlis & Force, 1988; Machlis, Force, & Balice, 1990; Polèse, Desjardins, Shearmur, & Johnson, 2002; Polèse & Shearmur, 2006).

Beginning in this millennium, a renewed interest in decline or "shrinkage" has been observed as a result of new cases that proliferate around the world (Beauregard, 2009; Pallagst et al., 2009). Indeed, some authors consider that resource-based communities today work as an indicator of the "upsides" and the "downsides" of globalization (McDonald & Clark-Jones, 2004). As a result, contemporary literature exhibits a growing awareness related to urban decline in countries such as Canada (Bourne, Gertler, & Slack, 2003a; Leadbeater, 2009; Polèse & Shearmur, 2006); Finland (Hanell, Aalbu, & Neubauer, 2002); Germany (Lang, Tenz, Pfeifer, & Brandstet, 2004), England (Dabinett, 2004; Lupton & Power, 2004); Denmark (Hansen & Smidt-Jensen, 2004); Italy (Barbanent

& Monno, 2004); Australia (Alston, 2004; Cocklin & Dibden, 2005) and Asia and Latin America (Pallagst et al., 2009).

Drawing from these studies, this research goes further in assuming decline as socially constructed, multidimensional, network based, dynamic, and conflictive. To develop this assumption I explore an alternative combination of variables: networks, capitals and conflicts. The perspective of social networks and social capital has been used in the context of urban neighbourhoods and some studies of rural small communities (Cocklin & Alston, 2003; Franke, 2005; Martinez, 2001; Schneider, 2004). This research translates this experience to resource-based communities in the Canadian middle north. The perspective of capitals has also been applied in Canadian, US, European and Australian studies to analyze social and financial capitals (Árnason, Lee, & Shucksmith, 2004; Cocklin & Dibden, 2005; Dale & Sparkes, 2007; Erickson, 2001; Flora & Flora, 2004), this research expand this approach by introducing political and natural capitals. A comprehensive literature search suggests that the perspective of social conflicts has not been applied to the study of declining resource-based communities; nor has it considered the topic in combination with social networks, and capitals frameworks. This research analyses these three approaches regionally, following each dimension of the sustainability paradigm: social, economic, environmental and political.

1.5 Research Design and Methods

The research is exploratory and qualitative, and the case study approach is the central research method. The Rainy River District - RRD, a rural region located in Northwestern Ontario was selected as the case study because:

1. From the perspective of traditional studies of decline, for the most part based on demographic and economic indicators, the RRD can be considered a region in decline (Bourne, Gertler, & Slack, 2003a; Polèse & Shearmur, 2006; Rothwel, 2001).

2. The RRD illustrates the growing problem of decline in the Canadian middle north. Between the last two censuses, this region lost 2.5% of its population base (Statistics Canada, 2008). The RRD comprises almost 0.2% of Ontario's population and 2% of Ontario's aboriginal population.

3. The RRD is a rural region (Bollman, Beshiri, & Mitura, 2007; Hodge & Robinson, 2001). Limited consideration of rural regions and social subsystems within the frameworks of New Regionalism and social-ecological systems, respectively, also motivated this selection.

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4. From a policy perspective, three recent government initiatives to address decline in Northern Ontario, the "Rosehart Report", "Smart Growth" and "Growth Plan for Northern Ontario" reinforce the importance of selecting this region.

5. Bio-geographically the RRD is located within the Quetico Superior Ecotone, where three major continental biomes meet: the boreal forest, northern temperate forest and prairie. This ecotone covers a territory between Northern Minnesota and North-Western Ontario (48–50_N, 89–92_W) that is influenced by three major air streams (tropical, arctic and pacific). The region has important natural diversity resulting from differences in moisture, nutrient and light created by variations in topography and geology (Kronberg, Watt, & Polischuk, 1998).

Multiple research tools were employed for the methodology including:

1. Literature review focused on five themes: New Regionalism, Social Networks, Capitals, Social Conflicts, and Complex Systems.
2. Secondary research in Economic Development offices, museums, municipal offices and libraries to collect historical, policy, and planning documents.
3. Semi structured interviews with diverse actors in ten municipalities and three First Nations communities.
4. Social Network Analysis to map and analyze diverse socio-economic and environmental networks.
5. Group Model Building to analyze decline dynamics from a complex system perspective.

1.6 Outline of Chapters

This research aims to better understand decline based on the perspectives of multiple local actors and from a regional perspective. I have approached this task through a four-section analysis.

The first section describes the research context based on a literature review, and presents and tests a conceptual framework. In this section, chapters 1, 2 and 4 describe the research framework, the methodology, the case study and the state of the study of decline. This section also develops the second objective of developing and applying a conceptual framework to guide research and interpret outcomes concerning decline in rural regions and communities

The second section, Chapters 3 and 5 addresses the first objective by presenting a multidimensional reading of a rural region in decline. Chapter 3 characterizes the case study. Chapter 5 applies the conceptual framework and analyzes the role of networks, capitals and conflicts in the

case study. A discussion about network decay and regional development and networks as places, oriented to describe the structural features of decline, closes this chapter.

The third section, Chapters 5 and 6, addresses the third objective. It characterizes and analyzes the role of conflicts, networks (social, economic, environmental and political) and capitals (social, natural, built and political) in the process of decline of resource based communities. Chapter 6 develops a qualitative model of decline informed by the complex system's perspective concluding with a discussion about the interface of complexity and planning.

In the fourth section, Chapter 7 evaluates existing and potential responses to decline in the RRD. This chapter addresses the fourth objective by exploring the role of formal and informal planning institutions and identifies key obstacles to sustainable development in the RRD. The chapter closes with a discussion about obstacles to change.

The final section, Chapters 8 and 9, addresses the last objective of this research and presents a series of policy and planning implications. These chapters propose a framework for the actors in the region to plan for decline comprised by planning elements, a "soft" infrastructure to facilitate the planning process and elements for the creation of a common vision. Finally, policy, planning implications and conclusions are presented in Chapter 9.

Chapter 2: Literature Review and Conceptual Framework

2.1 Introduction

Though decline is not a new phenomenon, this process, however, has been accelerating in the past two decades, during which about one third of Canadian rural communities have experienced continuous population decline (Alasia, Bollman, Parkins, & Reimer, 2008). This chapter draws upon the literature of decline in rural regions so as to describe on various dimensions of this problem. This review is organized in three sections. The first section explores literature about regional economic development and planning. The second section reviews the concept of decline and its social, economic, environmental and political dimensions. The third section explores three complementary theories, conflict theory, complex systems theory and social networks. The literature from each theme is critically reviewed to identify the gaps that orient the research objectives and is used to develop the conceptual framework and the methodology designed to guide this research.

2.2 Regional Economic Development and Planning Theories

The literature reviewed for the planning theme focused on regional development and planning. The discussion is confined on analysis of: a) a brief historical review about central regional economic development theories and b) New Regionalism. Indeed, diverse authors consider that it is increasingly necessary to go beyond these traditional, but separate, fields of regional economic development and regional planning and to begin linking them through planning practice (Hodge & Robinson, 2001; Robinson & Webster, 1985).

2.2.1 Regional Economic Development Theories

Regional economic development addresses the ways to achieve sustainable economic growth. Contemporary theories go beyond traditional visions of the region and incorporate elements of proximity, agglomeration economies and increasingly involve socio-political factors (Edwards, 2007; Miernyk, 1979). These theories have been evolving during the last 60 years and decisively influencing policy practice oriented towards rural regions. In Canada, two central periods can be observed:

1) The Post War Period: 1950-1990

In this period, regional development efforts emerged from the confluence of two central processes, a political ideology which considered economic growth as strategic for national development, and a theoretical framework conformed by two trends (Friedman & Weaver 1979;

Hodge & Robinson, 2001; Savoie & Higgins, 1995; Savoie, 2000): a) the framework of "regional science", developed around the use of quantitative techniques such as input-output analysis, growth pole theory, and cost-benefit analysis; and b) Keynesian economics, which promoted government intervention in the economy to control inflation and unemployment, and to overcome regional disparities in employment and income. Central theories are enunciated in Table 2.1.

Table 2.1: Regional Economic Development Theories

Period	Theories	Significant Descriptions
Early Regional Development Theories		
The 50s	Staples Theory	(H. Innes, 1962; Innis, 1962; Savoie, 1992; Savoie & Higgins, 1995)
The 60s	Growth Pole Theory	(Higgins & Savoie, 1988; Perroux, Friedman, & Tinbergen, 1973)
70s – 80s	Neoclassical Theories	(Savoie & Higgins, 1995)
Contemporary Regional Development Theories		
Since 90s	Neoclassical Conditional Convergence Theory	(Armstrong, 2002; Cuervo, 2003).
	Endogenous Growth Theory	(Rietveld & Shefer, 1999; Yoguel, 2000)
	Post fordism and "radical" theories	(Dunford & Smith, 2000)
	Social Capital Theory	(Putnam, 1993)
	New Economic Geography Models a) the footloose-labour version and b) the vertically linked industries version	(Krugman, 1980; , 1991) (Krugman & Venables, 1996)
	Export Competitiveness Model a)Innovative Milieux and 'Learning Regions'	(Porter, 1990) (Armstrong, 2002)

Source: Information compiled through secondary research.

2) The Post-industrial period: 1990 - Onwards

During this period, the Canadian government started reducing the national institutional structure for regional development, promoting instead a decentralized approach to regional development (Hodge & Robinson, 2001; Savoie, 2000). Today, Canadian provinces continue to have different government institutions working for regional development, such as Atlantic Canada Opportunities Agency – ACOA, Western Economic Diversification Fund, The Canadian rural Partnership, FedNor, and Community Futures. Central ministries also manage programs targeting regional development activities(Government of Canada, 2006a, 2006b, 2006c, 2008b).

This process of decentralization and shrinkage of central governments and differing explanations of regional growth in the EU and North America have renewed the interest in alternative regional growth and development models. In this context, theories such as endogenous growth and

new economic geography challenge neoclassical and export oriented growth paradigms. As a result, we currently observe at least seven theories listed in Table 2.1 (Armstrong, 2002; Cuadrado, Mancha, & Garrido, 2002). Among these theories, Social Capital Theory suggests pertinent insights for this research. By analyzing the differences in income levels between southern Italy and the north-"Third Italy," Putnam (1993) introduced the discussion about the role of socio-cultural factors on regional growth and regional disparities. Success in Third Italy is explained as a result of strong political and social structures based on civic traditions. This led to a progressive build up of "good" social capital reflected in its economic performance. The key factor in this process is trust, which encourages co-operation between businesses and reduces production costs related to legal contracting and monitoring of businesses interactions.

2.2.1.1 On Rural Regions

The aforementioned theories are transforming the practice of rural regional development. Planning for rural regions is increasingly advancing towards a territorial, normative and multidimensional approach (Friedman & Weaver, 1979; Qadeer, 1979; Wheeler, 2002). Such an approach recognizes the endogenous potential of the territory, represented in local actors, culture, identity, and institutional networks; all necessary to achieve sustainable development (Alexander, 2007). Environmental advocates are also calling for sustainable development pathways (Bowler, Bryant, & Cocklin, 2002; Cocklin, Dibden, & Mautner, 2006). As a result, rural development is seen as the product of integrated and participatory processes (VanDepoele, 2002). However, this contemporary territorial approach still needs to be constructed.

In rural regions currently prevails a transitional stage from productivism towards a post-productivist economy. This trajectory promotes an industrial model characterized by globalizing production systems and a focus on competitive efficiency, frequently accompanied by deregulation. The post-productivist dynamic simultaneously promotes two models: 1) The aesthetic character of the landscape, and 2) A new, knowledge based, economy based on the increasing weight of services and technological economic activities (Gertler, 2001; Marsden, 2003).

2.2.1.2 Key Lessons

Contemporary regional economic development theories explain regional disparities and decline in rural regions based on the following attributes (Barkley & Wilson, 1992; Cuadrado, 2001; Cuadrado, Mancha, & Garrido, 2002; Edwards, 2007; Leatherman & Marcouiller, 1996; Rosenfeld, 1988; Stabler & Olfert, 1993): First, higher population density is rarely available in

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rural regions to facilitate diversification of the economy independent of natural resources and limited economies of scale weaken socio-economic infrastructures. Second, economic growth in rural regions depends on the availability of four factors: a) adjacency to metropolitan areas; b) agglomeration economies and cooperative environments; c) advanced producer services and institutional infrastructure; and d) scenic amenities. Finally, limited human capital and low-wage manufacturing and service industries make rural regions more vulnerable to commodity cycles, international competition and technological obsolescence.

The theories and attributes discussed above informed the analysis of the case study and offer an important insight about economic and demographic factors causing divergence and decline. But, how decline happens, how the local society is transformed and which factors help rural people to react and to take new initiatives to cope with decline remains unclear. Also, policy practice influenced by these theories has been focused on formal institutional approaches to regional development.

2.2.2 Regional Planning Theories: New Regionalism (NR)

Since the 1990s there has been a growing interest in regional landscapes as a place of social, political, economic, and environmental changes based on rapid transformations of territorial relationships, which motivates scholars to increasingly address "the regional question" (Bourne & Olvet, 1995; Haughton & Counsell, 2004; Hodge & Robinson, 2001; Lupton & Power, 2004; Scott & Storper, 2003). Among the diversity of views about the concept of region, I adopt the definition suggested by the Planning Association of America, that sees the region as a "territorial community distinguished by a common history, common social institutions, and a shared view of the relationship between humans and the environment" (Ndubisi, 2002, p. 14).

This current diversity of regional views is considered essential to understanding and managing the process of globalization, and its effects on regional dynamics such as growth, equity, and quality of life (Pastor, Benner, Rosner, Matsuoka, & Jacobs, 2004; Wheeler, 2002, , 2004). This activity has been termed the renaissance of regional planning in the era of globalization (Bienefeld, 2000; Haughton & Counsell, 2004; Rainnie & Grobbelaar, 2005; Wheeler, 2002) and a paradigm shift in regional planning, commonly described as the "New Regionalism" - (NR) (OECD, 2001; Rainnie & Grant, 2005; Wheeler, 2002). New Regionalism, goes beyond the classic quantitative approaches promoted by Isard (1975), and is now widely accepted (Anttiroiko & Valkama, 2006; Bienefeld, 2000; Keating, 1998; Rainnie & Grobbelaar, 2005)

New Regionalism – (NR) addresses diverse concerns such as sprawl, environmental impacts, homogeneity of built environment, uneven regional development and persisting social problems. These concerns developed into several movements such as new urbanism, sustainable communities, and smart growth, which have had profound implications in regional planning (Ash, 1999; Burfisher, Robinson, & Thiefelder, 2004; Gomanee, 2004; Keating, 1998; Porter, 2003; Rainnie & Grant, 2005; Wheeler, 2002, , 2004; Yoguel, 2000).

To some extent, NR is permeated by other approaches such as core-periphery models (McCann & Simmons, 200), city regions and learning regions (Herrschel & Newman, 2005), governance strategies in different sectors and levels (Bienefeld, 2000; Wood & Valler, 2004), equity within city-regions (Katz, 2000; Pastor, Benner, & Rosner, 2006), the region as the ideal economic scale in the global economy (Ash, 1999; Ash & Thrift, 2002; Porter, 2003), and the various types of regionalization (Anttiroiko & Valkama, 2006). NR is seen also as a multi-disciplinary movement (Wheeler, 2002), a new paradigm (Rainnie & Grobbelaar, 2005), and a new era in regional planning (Wheeler, 2002).

2.2.2.1 Core Characteristics of the New Regionalism

The following are salient characteristics of NR, significant to this research:

a) Focus on specific territories and spatial planning - open vs. closed: Friedman and Weaver (1979) predicted that future regional planning approaches would have to emphasize "territory" as opposed to "function". Certainly, NR promotes a revival of the spatial dimension and more attention to place (Wheeler, 2002, p.270). NR considers localities as the focus of socio-economic and political initiatives (Rainnie & Grant, 2005, p.10). In this regard, NR accepts that regional boundaries are not closed, but elastic. What defines the extent of the region depends on the issues and qualities we want to address (Wallis, 2002). This approach facilitates recognition of the multiple scales and dimensions intercepting a region and devising plans for regions facing decline.

b) Answers to post-modern problems- government vs. governance: Rural regions reflect a mosaic of physical forms, political forces, social structures, economic activities, and environmental constraints. NR recognizes the difficulties faced by governmental institutions for addressing post-modern contexts, and looks for a comprehensive understanding of different governance options, analysis of social movements, and development of different social-economic capitals within the region (Pastor, Benner, Rosner, Matsuoka, & Jacobs, 2004; Wallis, 2002; Wheeler, 2002). This

approach facilitates recognition of regional contexts, governance systems, and socio-economic assets, addressing them trough a holistic and normative approach.

c) A holistic approach - power vs. empowerment: NR promotes empowerment of local actors and a holistic approach to balance environmental, social justice and equity liveability concerns with economic objectives to reach sustainable development, (Campbell, 1996; Wheeler, 2002, , 2004). As a result, growth theory is increasingly contested as a general formula to solve decline (Pallagst, 2005), while empowerment is promoted as it facilitates connections among actors (public and private) and interests to the regional agenda, and the creation of new capabilities and innovative initiatives (Wallis, 2006, p.4). This approach highlights the transformative power of local agency, and the possibility to approach decline from an endogenous perspective.

d) A new emphasis on physical planning - structure vs. process: NR emphasizes that policies and strategies in regional planning must work together in order to achieve a more "*coherent overall regional fabric*" for both metropolitan and rural areas (Wheeler, 2002, p.273). The result is a sense of place with focus on processes such as visioning, strategic planning, conflict resolution, and public participation, as the vehicles to reach the planner's goals (Wallis, 2006). From this approach, the emphasis on conflicts and the recognition of a need to go beyond the physical form are particularly noteworthy for this research.

e) Addressing regional problems: coordination vs. collaboration: NR articulates a more normative and proactive participation of planners and a more fluent interaction of theory and practice (Wheeler, 2002). In this regard, NR advances in an opposite direction from the classic detachment of regional science promoted by Isard (1975). NR emphasizes an inclusive and collaborative approach to problem solving and the recognition of diverse actors as distinct but equal (Wallis, 2006, p.3). This position and a proactive role of planners are key elements when planning for decline.

The emphasis on the territory and its multidimensional nature, the need to approach it from a holistic perspective that recognizes its governance system and multiple realities, the transformative power of local agency, the importance of conflict, cooperation, and capitals, and the need to approach decline from an endogenous perspective are key lessons offered by NR and a new approach to planning tools that this research adopt to analyze the problem of decline in rural regions.

2.2.2.2 Theoretical Underpinnings of NR

Central movements within NR (e.g. smart growth and sustainable communities) share two key theoretical roots, institutional theories and collaborative planning (Calthorpe & Fulton, 2001;

Duany & Talen, 2002; Kotkin, 2005; Pastor, Benner, Rosner, Matsuoka, & Jacobs, 2004; Wallis, 2002; Wheeler, 2002, , 2004).

Institutional Theory: Institutional economics are at the core of the so called "institutional turn" in regional development theory. This theory approaches economic life as an institutionally based process and a socially embedded activity and studies ties of proximity and association as a source of knowledge, learning, and development. This body of thought sees the economy as non-equilibrating, imperfect and irrational.(Ash, 1999; Ash & Thrift, 1995, , 2002; Phelps & Tewdwr-Jones, 2004; Scott & Storper, 2003; Storper, 1997). Three central principles are considered in this stream of thought (Ash, 1999; North, 1990): 1) Markets are socially constructed and economic behaviour is rooted in networks of interpersonal relations. As a result, network properties, such as mutuality, trust, and cooperation, or their opposites influence economic processes; 2) Actor-network rationalities generate different forms of economic behaviour and decision-making, and influence creativity, learning and adaptive capacities of actors; 3) Economy is an outcome of long term collective forces, which include formal (rules, laws and organizations) and informal (habits, routines, and social values) institutions.

Applying these conceptions, NR is primarily focused on the study of successful regional economies (e.g. Silicon Valley), and international trade agreements, to investigate the sources of local-regional advantages, such as the role of untraded interdependencies, and the interaction of formal and informal institutions (Bienefeld, 2000; Bouzas, 2005; Burfisher, Robinson, & Thiefelder, 2004; Porter, 2003).

Based on institutional theory, NR promotes four general principles of economic governance (Alasia, 2005; Ash, 1999; Ash & Hausner, 1997; Ash & Thrift, 2002): 1) To foster an "institutional thickness" based on a plurality of autonomous organizations, institutional renewal, and strong human capital; 2) To build a regional culture of social inclusion, empowerment, economic creativity, and collaboration. 3) To build "agglomeration economies" based on networks of association and cooperation; 4) To promote "learning" regions based on strengthened sources of knowledge (e.g. linkages between universities and industry), innovation, strategic vision, and adaptation.

It is important to differentiate between concepts of institutions and organizations. Institutions are socially created constrains that shape interactions among actors. They reduce uncertainty by establishing stable (but not necessarily efficient or equitable) structures to human exchange in the political, social and economic dimensions, and *"define and limit the set of choices of individuals"* (North, 1990, pp. 3-4). Together with technology employed, institutions determine transaction and

transformation costs and hence the profitability and feasibility of economic activities. Institutions have three dimensions, formal rules, informal constraints, and enforcement mechanisms, which work as a guide to human interaction. Institutions include formal and informal spaces of social interaction, negotiation, and contestation across the public and private dimensions (North, 1990; Verma, 2007).

Although both organizations and institutions structure human interaction, organizations are tangible institutions created as a strategy or vehicle to reach or maximize a specific goal and they include social bodies (e.g. churches, clubs, and schools), economic bodies (e.g. industries, cooperatives, and farms), environmental bodies (e.g. conservancy groups) and political bodies (e.g. town councils, and municipal associations) (Morrison, 2006; North, 1990). Helmke & Levitsky define informal institutions as socially shared rules, usually unwritten, that are created, communicated, and enforced outside of official institutions and organizations (2004).

The institutional and organizational context in a particular region influences the type of human capital (skills and knowledge) available which has important implications for the development of society. Hence, organizations, institutions and capitals are linked, influence and transform each other (North, 1990; Verma, 2007).

 These theoretical and economic governance principles are of central importance for the study of decline. However, decline scholarship has been for the most part focused on the analysis of formal institutions (Bourne, Gertler, & Slack, 2003a, , 2003b; Force, Machlis, & Zhang, 2000; Polèse & Shearmur, 2006) leaving unattended diverse aforementioned "soft" variables of the social structure affected by declining processes.

Collaborative Planning Theory: Collaborative planning is now a dominant paradigm in urban planning theory (Alexander, 1997; Foley & Lauria, 2000; Innes, 1995; Tewdwr-Jones & Allmendinger, 2002). Collaborative planning (Healey, 1997, , 2003, , 2004) is concerned with the transformative influence of planning upon existing structures (in the institutional sense) (Wallis, 2002). Healey defines institutions as structures that are actively constituted through relational networks of actors, which facilitates access to opportunities and diverse capitals and development of shared values and consensus (Morrison, 2006). In general, collaborative planning is focused on issues of context (the nature of particular places and systems of governance) and structure (institutions and organizations) (Harris, 2002, p.33). In addition, collaborative planning addresses issues of power relations and adopts an explicitly normative agenda for developing more democratic planning practices (Healey, 2003).

Healey (1997) considers that collaborative planning explores why urban regions are important to social-economic and environmental policy and how political communities may organise to improve the quality of their places (p. xiii). Collaborative planning is explicitly concerned with progressing normative agendas (Healey, 1997), facilitating diverse actors' initiatives for collective action and creation of social, human and political capital (Morrison, 2006) and it can therefore be applied as both a framework for interpreting and as a framework for practical action (Harris, 2002). Collaborative planning also recognizes the importance of networks, for example by asserting that "networks intersect at 'nodes' that provide 'arenas' for discourse between people" (Healey, 1997:61).

2.2.2.3 Criticism

Some authors criticize NR for having little to say about questions of race, gender and class. A vague challenge to social exclusion is the only evidence to address these concerns (Lovering, 1999; Rainnie & Grant, 2005). This research additionally points out the absence of a systematic analysis of rural regions.

Focus on innovation and creativity can generate a discriminatory model of regional development, abandoning any notion of inclusivity inherent in NR. Also, this language can easily fit into the neo-liberal discourse (Rainnie & Grant, 2005), which allows the State to avoid responsibility for rural regions, arguing that development now lies in their own hands. On the other hand, shrinking size and financial capabilities of governments and local economic development agencies make questionable whether this fragile institutional structure can develop the framework of innovation, inclusivity and associationalism that NR promotes (Sagan & Halkier, 2005).

From the perspective of institutional theory, it is still difficult to explain the reasons for regional disparities and inequalities (Parente, 2001). Institutional theories cannot offer a clear solution to the challenges faced by disadvantaged regions, as these theories lack the propensity to anticipate and respond to changing external circumstances (Ash, 1999). Institutional theories do not directly address the questions of the changing form and role of the State, both at central and local levels (MacLeod, 2001). A focus on formal institutions (Rhodes, 1997) while ignoring informal institutions limits explanation of politics and power (DiMaggio & Powell, 1991).

From the perspective of the collaborative orientation criticisms can be summarized in four groups (Dredge, 2006; Harris, 2002; Healey, 2003; Morrison, 2006; Tewdwr-Jones & Allmendinger, 2002). 1) Collaborative planning is excessively focused on process and neglects the context; 2) Collaborative theory lacks an adequate base in social theory, and does not properly address issues of

power, inclusion and exclusion, and conflicts; 3) Collaborative planning includes a partial analysis and recognition of Institutional theory; 4) Collaborative planners tend to typify actors as either rational or moral individuals, thus ignoring how they scale up into organizations.

A revised NR approach for rural regions would include seven key elements: First is recognition of the importance and role of rurality and small communities in regional development processes. Second is recognition of the role of ethnicity and culture and more generally a wider approach inclusive of the multiple dimensions and systems involved in territorial development. Third is focus on connectivity, conflict transformation and public participation to avoid inequities and address regional disparities. Fourth is promotion of collective action and social networks as to address the shrinking role of the state, and enhance rural governance systems. Fifth is a consideration of informal institutions as a way to address issues of politics and power. Sixth is recognition of the role that networks, social capital, collective action and connectivity play in regional development. Finally is introduction of social networks as planning tools that will facilitate a structural analysis of rural social systems.

2.3 Socioeconomic, Environmental and Political Perspectives on Decline

2.3.1 The concept of decline

One of the earliest definitions of decline was suggested by Lucas (1971) in the context of company towns. Lucas considered that decline was the final phase of a staged process otherwise comprised by construction, recruitment, transition, and maturity. In the last stage, retired workers tend to remain in town, young people emigrate, leadership is vested in few individuals, the company closes, and the town is abandoned.

At the beginning of the 1980s, Bradbury, Downs and Small (1982) added to this concept descriptive and functional meanings. Descriptive decline refers to any decrease in indicators of size (e.g. population and employment). Functional decline refers to changes that are socially undesirable because they reduce the ability of the urban environment to perform its social functions effectively (e.g. growing crime rates, inadequate public services). In the context of OEDC countries, Ebel defined decline based on two elements: "*decrease in population, absolutely and relative to the metropolitan area, and/or loss of economic base, as measured by the level and composition of employment*" (1985, p. 2).

In the 1990s, industrial restructuring and other forces of change led Friedrichs to describe decline as a combination of "*rising unemployment, rising number of persons on public assistance,*

and plant-closing, occurring predominantly in 'old industrialized regions'" (1993, p. 907). Friedrichs'
model highlighted the role of low industrial diversity, local industrial elites, and international markets
as the initial causes of decline: "*Hence, population decline due to migration is the consequence of
economic decline*" (p.908). More recently, Leadbeater suggests that decline refers to:

> ...a long-term population decrease, whether it is a persisting decline or a reduction to a lower, more-or-
> less stable scale. Population decline is typically associated with absolute and relative declines in
> employment, living standards, and opportunity, and with increases in poverty and insecurity. Visible
> material associations include vacant, derelict, or underutilized housing, businesses, farms, schools,
> streets, transportation, communication and utility infrastructures (2009, p. 89).

The above definitions share three key elements: 1) Although conditions and causes of decline
have changed, the concep of decline as a linear and staged process remains; 2) Demographic and
economic factors have prevailed as the focus of analysis; and 3) Political and environmental factors
are usually absent. The remaining of this section disentangles the social, economic, political and
environmental dimensions of this concept and identifies the gaps in the literature.

2.3.2 Social Dimension

Authors agree on three demographic trends as the fundamental drivers of decline in rural
Canada: population concentrating in CMAs, ageing population, and increased labour mobility
(Bollman, 2007; Bollman, Beshiri, & Mitura, 2007; Bourne, 2000; Bourne, Gertler, & Slack, 2003a;
Bourne & Simmons, 2004; Coffey & Polese, 1987; Polèse, Desjardins, Shearmur, & Johnson, 2002;
Polèse & Shearmur, 2006).

The problem of population decline and ageing in rural regions includes both a distance and a
scale problem: the increasing costs of production, time (i.e. opportunity) and convenience of
overcoming distance as density of population falls, and the difficulties faced by remaining service
providers to reach necessary scale economies. The literature reports that these two problems lead to
three negative externalities perceived in resource-based cities and towns (Aasbrenn, 1998; Bourne,
Gertler, & Slack, 2003a, , 2003b; Feser & Sweeney, 2003; Friedrichs, 1993; Smiles, Argent, &
Griffin, 2002): First, plant closures increase unemployment, and incentivize outmigration, raise the
number of households requiring social assistance, and shrink the tax base. Unemployment negatively
impacts private consumption, sales of services and retail decline, further shrinking town's tax
revenues. Second, shrinking fiscal and economic base limits the capacity to attract new industries and
renew decaying infrastructure, which costs of maintenance remain. Usually, social infrastructure is
the first affected (e.g. schools, museums, and libraries). Third, the cost of provision of public services
increases and its quality is affected while the demand for these services change (e.g aging population
demands better medical services and less education). As a result, a feedback can be observed as the

overall quality of place is affected making the town less attractive to new industries and migrants, which in turn further accelerates population decline and economic stagnation.

Together these features of shrinking rural towns form a self-reinforcing cycle, described in Figure 2.1. Arrows link the cause and the effect, and the sign (+/-) points out to an increasing or decreasing effect. Cycles like

Figure 2.1: Population decline
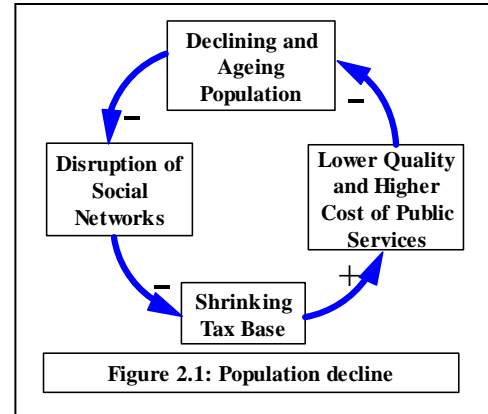
this are part of the general dynamics of the region (See Chapter 6) and the feedbacks that characterize the multiple existing relationships. Feedbacks refer to the result of system's behaviour which "*may reinforce (positive feedback) or modify (negative feedback) subsequent behaviour*" (Berkes & Folke, 1998, p. 6). In the case of Figure 2.1, the cycle obstructs economic diversification, propels out migration, affects wellbeing and self-confidence of remaining population (Belzer & Kroll, 1986; Smiles, Argent, & Griffin, 2002), and work as key impediments to the implementation of sustainable development (Dale & Onix, 2005; J. Robinson & Tinker, 1997). Figure 2.1 also suggests three gaps in the literature: One is that out migration disrupts social networks, and impacts leadership and collaborative processes (collective action), which together define the community's endowment of human capital and its capacity to adapt to change and recover. Population decline is usually not linked with the loss/status of other forms of capitals (e.g. human, social, and natural). Second, is the role of gender, religion, and ethnicity in the process of decline. Finally, the dynamic feedbacks between causes and effects are not recognized in the literature.

2.3.3 Economic Dimension

Economic analysts concur that there are four central economic drivers that are directly or indirectly influencing the processes of growth or decline in rural regions: infrastructure and distances, structural transformations, technology, and single industry economies (Bollman, 2007; Bourne, Gertler, & Slack, 2003a, , 2003b; Cuervo, 2003).

Infrastructure and distances influence transport costs, industrial location, technology transfer, population growth and competitiveness (Alasia, 2005; Hite, 2000; Russell & Harris, 2001). Infrastructure development is also linked with resettlements, economic stagnation, decreasing property values and physical decay of rural communities (Condon, 2004; Croll, 1999; Jing, 2003).

Structural economic changes include the orientation to a service-based economy, and the influential role of corporations in the global liberalization of capital and trade flows. Altogether, these trends generate diverse impacts on resource based economies, of which de-industrialization is most salient (Bourne & Simmons, 2003; Bourne & Simmons, 2004; Mercer & England, 2000). This process is considered from the perspective of

Figure 2.2: Commodity Cycles
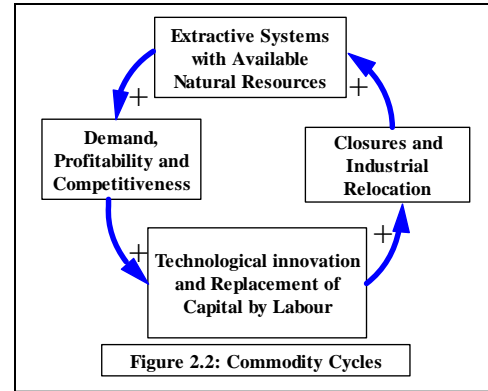
models of cyclical change at the national level, such as the waves proposed by Kondratiev (1935). Such approaches have been challenged as a result of their conflict with empirical evidence (e.g. Freeman, 1984). Alternative interpretations, closer to regional realities and urban decline phenomenon, are the product-cycle approach (Friedrichs, 1993; Vernon, 1979) and commodity cycles (Bunker, 2005a, 2005b; Ciccantell & Bunker, 2005), which help to explain the evolution of industrial products and the relocation of industries. Commodity cycles in particular (see Figure 2.2) are at the base of the de-industrialization process and are factors not usually considered in the analysis of decline. Commodity cycles are a second type of reinforcing propelled by technological change and innovation. In extractive systems costs of production tend to rise in parallel with the scale and location of extraction. Responses to demand, profitability and competitiveness, further increase specialization, facilitated by technological innovation, which in turn increases replacement of capital by labour, and production costs. At this moment, technologies that create substitutes or cheapen transport become cost effective which facilitates either the switch to new commodities or industrial relocation to regions with lower economic and political constrains and higher availability of natural resources (Bunker, 2005b; Ciccantell & Bunker, 2005; Rietveld & Shefer, 1999; Yoguel, 2000).

Technological development and levels of local innovativeness are key factors in the process of growth/decline, directly linked with agglomeration economies, human capital, demography, and information, all of them core variables facing erosion in rural regions (Turpin, Liu, Garret, & Burns, 2002). Also, these factors are positively linked with productivity and trade (Gomanee, 2004; Yoguel, 2000; Young, 2006a).

Finally, the central industry inhibits the diversification of the local economy, and local entrepreneurship and as a result employment growth (Bollman, Beshiri, & Mitura, 2007; Bunker, 2005b; Leadbeater, 2009; Polèse & Shearmur, 2006). When the company closes, the impact extends to related industries, resulting in a negative image of the town and region, deterring other companies from locating in the area (Friedrichs, 1993). Mono-industrial dependence is also associated with high

poverty rates (Bliss, Bailer, Howze, & Teeter, 1992; Freudenburg, 1992); unemployment (Norton, Howze, & Robinson, 2003); higher rates of social pathology such as crime rates (Force, Machlis, Zhang, & Kearney, 1993; Force, Machlis, & Zhang, 2000); a bi-polar income distribution (Bourne, Gertler, & Slack, 2003a); and a higher dominance of a local industrial elite which will tend to extend the process of decline and lower the prospects of recovery (Friedrichs, 1993).

2.3.4 Political-Institutional Dimension

Changes in the governance system and institutional structures, and globalizing socio-political and economic processes are determining new destinies for rural regions (Veiga, 2004). Political and policy decisions influence where and how economic and social change takes place. Hence, the problem of decline can be understood partly in terms of rural governance systems, that is, in terms of the political choices, made by state, market, and civil society actors to reach a desired collective well being (Flora & Flora, 2004), and the specific configuration of the governance system (Stark, 2005).

Governance refers to a continuum of governing types (Jordon et al 2005), where boundaries between interacting organizations, and public and private sectors are increasingly permeable (McAllister, 2004; Stoker, 1998). In this regard, rural governance systems incorporate not only decision-making and policy implementation practices, but also a wide range of stakeholders (individuals, and organizations beyond government). This multiplicity of political actors interact through diverse types of self-governing networks at supra-national and sub-national levels (Cheshire, Higgins & Lawrence, 2007; Counsell & Haughton, 2003). These networks are assuming or sharing many of the former responsibilities of the nation state, and leading contemporary processes of regional development (Cheshire, Higgins & Lawrence, 2007; Stark, 2005).

Decision-making in rural governance systems increasingly incorporates active citizen participation in planning and policy making, collaborative processes among diverse stakeholders and networks, and emphasizes rural actors' responsibility to manage rural development. The purpose of this emerging governance system is threefold, first it looks to achieve collective benefits that could not be obtained by any of the participating actors separately; second it can reduce the fiscal demands placed upon public funds and strengthen community's capacity for improvement; and finally it provides access to government resources and expertise through enhanced participatory processes (Boydell, 2005; Cheshire, Higgins & Lawrence, 2007; Stark, 2005).

The changing role and structure of governments have been accompanied by processes of decentralization, privatization and decreasing size of central governments, which have led also to a

change in the nature of public policies oriented to rural development and diminishing resources and investments for rural regions (Doern & Johnson, 2006; McAllister, 2004; Salamon, 2002). The resulting impacts further stimulate out-migration and industrial relocation, which together with the social factors described above create a "*new crisis in hinterland development*" (Leadbeater, 2009, p. 94). However, as they are connected to global dynamics, small communities are not necessarily passive entities (Schneider, 2004). The literature

Figure 2.3. Governance Reinforcing Cycle
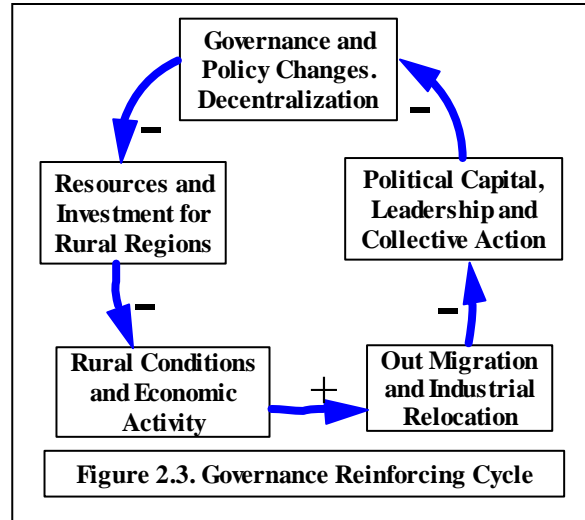
reports that in order to respond to decline local actors use formal and informal institutions, with positive or negative outcomes (Anderson & Woodrow, 1989; Luloff & Bridger, 2003; Weichselgartner, 2001). Together these elements configure a third reinforcing cycle that accelerates out migration and industrial relocation (See Figure 2.3).

In this process resource-based economies are swinging from relatively stable corporate-state institutional structures towards new power structures and governance (Hayter, 2000, p. 305), pushing rural actors into unfamiliar economic, as well as political spaces (Young, 2006b). In this context, the role of the so called intangible factors (Governance, institutions and organizations, collective action, social networks, and culture) is increasingly recognized and linked positively with rural development (Cocklin & Dibden, 2005; Dale & Onix, 2005; Winter & Lobley, 2005). However, empirical studies linking these issues with rural decline are limited.

Two linked gaps are noticed in this context: One is the role that organizations, as key actors in emerging rural governance systems, can play in the process of decline. In particular these are the inter-organizational networks, forms (e.g. alliances and federations), and characteristics (interdependence, size, structure and mission) (Alexander, 1995; Alexander, 2007; Pearce & Ayres, 2007; Verma, 2007) that they adopt when governing a rural region. Second is the interplay between organizational networks (formal institutions) and the local/regional governance system that refers to the transformation of social into political capital and, more specifically, how local actors (individuals and organizations) can influence policy to address or overcome decline in rural regions (Birner & Wittner, 2000; Booth & Richard, 1988; Rakodi, 1999).

2.3.5 Environmental Dimension

Decline can be seen as the loss of carrying capacity in resource-based communities. In these communities, the social subsystem is almost entirely relying on the ecological subsystem and its natural resources. However, they affect each other through a complex relationship. A critical issue in this context is the capacity of both subsystems to assimilate change and adapt, which brings forward the notion of their thresholds or limits. These are the conceptual basis of carrying capacity (Arrow et al., 1995; Cliggett, 2001; Coccossis & Mexa, 2004; Fearnside, 1997).

The concept of carrying capacity is ambiguous and has been applied with related but differing meanings in diverse disciplines (Coccossis & Mexa, 2004; Cuadra & Bjorklund, 2007; Gavin, 2007). In urban and regional planning (Clarke, 2002; Schneider, Godschalk, & Axler, 1977) this concept provides a framework for analyzing different types of capitals, considers the impacts of growth on them, and determines implications for future planning. From this perspective, carrying capacity is seen as "*the ability of a natural or man-made system to absorb population growth or physical development without significant degradation or breakdown*" (Schneider, Godschalk, & Axler, 1977). However, the concept has been usually based on assumptions of growth, and so faces different challenges (Clark, 1973; Clarke, 2002; Cliggett, 2001; Fearnside, 1997; Fresco & Kroonenberg, 1992; Hanna, 2005). They include:

- The concept involving more than the link between population size and available resources. Social–ecological links have a multidimensional nature.
- Social–ecological relationships are open, dynamic, complex, and influenced by technology.
- The rent dissipation ("blame-the-victim") and rent maximization frameworks' assumptions of isolation and ahistorical processes of regions that need revision.
- Significant shifts in the economic base involving political, economic and ecological factors, which are usually beyond the influence of rural communities.
- Assumptions of homogeneity and isolation of rural regions.

As a result, in the social subsystem the carrying capacity can grow or decline depending on the ways in which resources are used and distributed, the technology employed, power dynamics and the governance system, and external factors affecting the socio-economic environment (Boserup, 2002; Fearnside, 1997; Leadbeater, 1988). In particular social institutions and technology are key in the process of shrinking carrying capacity of rural communities and their ability to retain population (Arrow et al., 1995; Clarke, 2002; Cliggett, 2001; Prasad, 2003).

Carrying capacity in rural communities can also decline because of natural and socio-technical disasters, plagues and new diseases, and overexploitation (Fearnside, 1997; Hollander, Pallagst, Schwarz, & Popper, 2009; Knox & Mayer, 2009; Pallagst et al., 2009). Disasters affect the

local economy and social infrastructure by directly impacting factors of production, levels of employment and their level and growth rate of productivity (Chapin F, 2004; GAO, 2003; Mayda, 2005). Similarly, plagues (e.g. mountain pine beetle) and new diseases outbreaks (e.g. BSE disease), can disrupt productive and management processes (Aukema et al., 2006; Stueck, 2007) as well as international commodity trade (Charlebois, 2005; Shaluf, 2007; Walsh, 2005). Finally, exhaustion or overexploitation of a natural resource can happen in despite common or private property tenure systems (Clark, 1973) leading to unequal distribution of resources.

Visible effects of declining carrying capacity in the ecological subsystem of towns include effects such as noise; unpleasant smells; soil, water and air pollution; wasteful land use; unhealthy and unsafe living and working conditions; and exhausted natural resources. In the social subsystem, shrinkage of carrying capacity leads to "*terrains vagues*" (Hollander, Pallagst, Schwarz, & Popper, 2009, p. 16) which are neglected areas where closing industries and population decline leave abandoned houses and buildings, and crumbling physical infrastructure, among which nature starts to recover as urban forest, meadows or successional areas. These impacts are linked to increased crime and decline of vitality in residential and commercial areas (Schilling & Logan, 2008), depressed property values and tax revenues, which further decrease quality of place (see section 2.3.2) and limits the impact of revitalization initiatives (Pagano & Bowman, 2004; Pallagst et al., 2009; Schilling & Logan, 2008), dissuade reinvestment (Rybczynski & Linneman, 1995), and deters the process of transformation between different forms of capitals (see section 2.4.1) (Hutchinson & Vidal, 2004). Figure 2.4 describes a resultant reinforcing cycle in which environmental, institutional and technological factors, affect the carrying capacity of the social subsystem by draining the local social, economic and natural, capitals and infrastructures. The process is manifested in environmental degradation and neglected areas that in turn impact living standards, further stimulating out migration and impeding new investments and initiatives. Declining living standards closed the feedback,

reflected in higher levels of uncertainty related with the vulnerability of the local community, its capacity of response to change and increased shrinkage of the local carrying capacity. This analysis of decline from the perspective of carrying capacity helps to clarify how combined ecological and socio-economic factors influence decline, and particularly how the carrying capacity of the social subsystem (i.e. the social structure and the urban fabric of rural communities) is affected.

Figure 2.4. Carrying Capacity Reinforcing Cycle
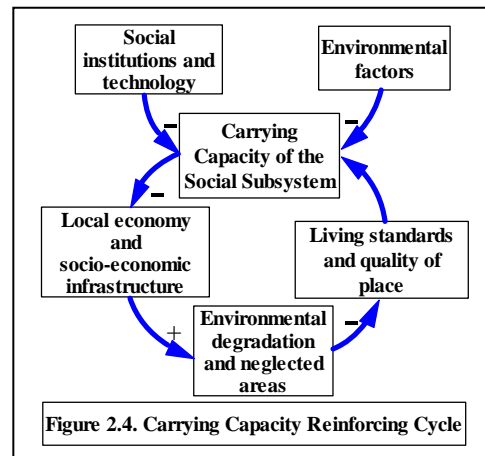
In summary, detailed analysis of the concept of decline presented in this section highlights two important points: One is the multidimensional and dynamic nature, and the complexity of the problem of decline. Second, three factors seem to permeate the multiple dimensions of decline: networks, capitals and conflicts. The following section explores these factors in detail.

2.4 Three Complementary Perspectives: Networks and Capital, Conflicts, and Complex Systems

Decline is frequently described as passive, unproblematic, unidimensional, and linear process. To go further in the integrated analysis proposed in this research and describe the conflictive, dynamic and network based nature of decline, this section briefly reviews the frameworks of social networks theory, the framework of capitals, and conflict theory, and the systems perspective.

2.4.1 Social Networks, Capital and Collective Action

- *Social Networks*

To Wasserman and Faust (1994) a social network is a group of actors and the relationships established among them. Interdependency, ties (linkages), active flows of resources (e.g. information), and the proportion of possible ties that are actually present in a network (density), are among other, defining features of social networks (Wasserman & Faust, 1994). Social networks configure the social structure, in other words, the patterns of social relationships (ties), linking or bridging social actors (nodes) (B. Erickson, 2001) to perform socio-economic, political and environmental actions.

Wellman (1979) described two kinds of networks connecting individuals and organizations in complex ways. The first group consist of local networks that work as sources of help and support on an everyday basis and in emergencies, to seize opportunities, and to reduce uncertainties. The second group comprises spatially and socially ramified networks through which actors can mobilize social capital and gain access to system resources and services located at higher levels (Wellman, 1979; Wellman & Wortley, 1990). Social networks are crucial in the daily life, and in moments of crisis they provide support, services, safety, financial aid, and social capital (Wellman & Wortley, 1990).

Recent studies further differentiate network features between rural and urban communities: 1) Network composition and the strength of ties differ, making rural and urban residents access social capital differently and with different purposes. As a result, location of network ties matters (Erickson, 2003; Onyx & Bullen, 2000); 2) Rural areas generally have higher levels of social capital, but they

need to balance bonding (stronger ties inside the community) and bridging social capital (weaker ties to the outside world) to achieve future economic wellbeing (Leonard & Onyx, 2003; Woolcock, 1998); 3) In rural areas, women tend to have more diversity in their networks than urban residents, but limited access to diversified occupational structures (Erickson, 2003); 4) Gender, employment, education, and other demographic factors, influence how people access social capital (Enns, Malinick, & Matthews, 2006). c) Strong local bonds can also prevent new actors for engaging with local communities, exclude information and limit innovations (Granoveter, 1973).

Charbonneau and Simard (2005) described various functional networks, such as networks created to solve problems and to respond to changes in methods of governance. The creation of social capital through networks generates important outcomes such as new programs for social groups, community-based businesses and services, and other types of social and economic support.

- *Capital and Collective Action*

The current prominence of the concept of social capital is attributed to James Coleman (Portes, 1998). Coleman considered that social relationships become social capital when actors rely upon each other to give support to social norms and to reciprocate help (Coleman, 1988). Although a wide literature explores different approaches, applications and categorizations (Woolcock, 1998), several authors coincide in defining social capital as the resources created through social relations such as trust, cooperation, and reciprocity (Coleman, 1988; Lin, 2007 ; Portes, 1998). Also, social capital includes the resources accessible through social ties that occupy strategic networks' locations or significant organizational positions (Lin, 2007). Social capital is context dependent, can work within or among communities, and is sensitive to cultural features and local power dynamics (Lin, 2007 ; Schneider, 2004).

The lack of social capital reduces the ability of people to work together, and affects the quality of life and the socio-economic conditions in rural communities, making them more susceptible to decline (Fukuyama, 1995; Lamore, Link, & Blackmond, 2006; Robert Putnam, 2000). On the contrary, successful communities have higher levels of social capital, which decrease transaction costs of doing businesses, support individuals to take risks and innovate, and address complex socio-economic and environmental challenges (Fukuyama, 1995; Lamore, Link, & Blackmond, 2006).

Social capital has a relational nature, whereas financial, built and natural capital take measurable material form, and human capital reflects the skills and knowledge of individuals (Lin,

2007). Diverse studies of rural communities in the context of Canada (Charbonneau & Simard, 2005; Dale & Onix, 2005; Gyarmati & Kyte, 2003), USA (Flora & Flora, 2004) and Australia (Cocklin & Alston, 2003), have emphasized the importance of capitals for the sustainability of rural communities. Capitals have two additional key features (Cocklin & Alston, 2003; Flora & Flora, 2004; Lin, 2007): a) Capitals do not grow permanently, they can be created, destroyed or combined in the process of regional development; b) Capitals can be accumulated or flow through social networks.

The relational nature of social networks and social capital underpin their relevance to the issue of collective action. The conjunction of common and individual interests or collective action, requires networks and flows of resources, capitals and information between individuals and groups (Adger, 2003; Lin, 2007). Social capital and predisposition to cooperation facilitate collective action, hence solving problems that demand cooperation and public participation is easier in communities with higher levels of social capital (Grootaert & Bastelaer, 2002; Robert Putnam, 2000).

Collective action, exercised through networks and local organizations, enhances community vitality, develops a collaborative culture, facilitates the attraction of external resources, promotes a strong sense of community belonging, and can be used to improve or provide alternatives for the provision of public services, all key elements in communities facing decline or working in recovering processes (Charbonneau & Simard, 2005; Desjardins, Halseth, Leblanc, & Ryser, 2002; Halseth, Sullivan, & Ryser, 2002). Through collective action, organizations and networks, as institutions, represent their communities locally and regionally, which represents an important political role, particularly for marginalized social groups (J. A. Schneider, 2004).

However, the effects of social capital and collective action are context dependent, and researchers must expect diverse combinations of factors coming into play (Grootaert & Bastelaer, 2002), for example, in the context of single-industry towns facing decline labour market is not only unstable but also subject to particular arrangements (e.g. shifts, transience) what impede the construction and evolution of social relationships (e.g. friendships, meetings) and impede the flows of resources through them (Gill, 1990; Gill & Everitt, 1993; Preston, Rose, Norcliffe, & Holmes, 2000).

The importance of social networks, capital and collective action for planning in declining contexts is that these are central means and facilitators of social interaction to solve local problems and meet local needs (Bruce & Montreal, 2001).

2.4.2 Conflict Theory

The capacity to recognize, address and transform conflicts is the base to create a sense of safety, belonging, and cohesion of different social groups. This spells tolerance and trust, which are factors increasingly recognized as pivotal features of successful and sustainable communities (Grootaert & Bastelaer, 2002; Healey, 1997; Lederach, 1997). However, the connection between conflict studies and rural decline has not been made, while declining communities seem locked in endless negotiations and confrontations with governments and within themselves. In this section basic concepts to identify and analyze conflicts in declining contexts are described.

Throughout history, we have seen diverse cities and civilizations exhausted by violent conflicts. The causes, among others, have been geo-political or economic, usually related to control and scarcity of natural resources (Diamond, 2005; Oswalt & Rieniets, 2006; Tainter, 1988). Conflict is defined as an "*expressed struggle between at least two interdependent parties who perceive incompatible goals, scarce resources, and interference from others in achieving their goal.*" (Wilmot & Hocker, 2001, p. 41). This definition highlights key elements for the study of decline, namely its interdependent and relational nature (coincident with social network theory), and the presence and perceptions over struggles, and scarcity of resources (diverse types of capital). In a declining region, it is possible to identify conflicts over natural resources and conflicts over other forms of capital.

In the 1980s, scholars proposed a new type of development that would facilitate the emergence of more peaceful socio-economic and political structures (Galtung, 1996; Hettne, 1983; Sørensen, 1985). Current approaches to this task, are looking for more policy–oriented (Barnett, 2008; Buckles, 1999) and structurally based (Dugan, 1996; Lederach, 1997) formulations. These approaches suggest two characteristics of conflicts of particular relevance for the study of decline: dimensions (root factors), and scales (levels) (Daniels & Walker, 2001; Lederach, 1997).

Dimensions: Conflicts emerge from the interactions of diverse actors within the socio-economic, environmental, and political dimensions of decline. Social-economic factors are present in conflicts where differences in ethnicity, age, income and economic power affect the distribution, use and availability of resources, and can destabilize the livelihoods of the vulnerable (Barnett, 2008; Burton, 1997; Hirsch, Phanvilay, & Tubtim, 1999; Homer-Dixon, 1999). Policy and political factors are present in conflicts where the government or influential NGOs have a devoted interest to public good such as a forest, animal species or clean air (Fisher, Moeliono, & Wodicka, 1999). Hence, conflicts involve issues linked to natural resources (environmental conflicts), and issues over

symbolic processes, relations of production, distribution of resources and capitals and ultimately power (Daniels & Walker, 2001; Flora & Flora, 2004; Moore, 1996).

Scales: Conflicts in resource-based regions involve interactions among stakeholders, as well as potential interventions to solve these conflicts. Both can take place at a variety of space and time scales (Lederach, 1997). In this regard, conflicts can occur at various local scales (Caton, 2004), but expand to the regional, and wider scales as a result of diverse issues such as legal issues (Weitzner & Borrás, 1999), participation of local actors and NGOs influences broader decision-making (Chénier, Sherwood, & Robertson, 1999) and lack of communication and common agendas that impede cooperation and collective action (Daniels & Walker, 2001). Conflicts, then, vary in a scale that goes from simple to complex levels: individuals, organizations, communities, and regions. In a specific conflict situation conflicts can cut across these scales through multiple networks (Daniels & Walker, 2001).

Dimensions and scales of conflict reflect damaging deprivations of rural communities influenced by social institutions and policies. As such, conflict is an avoidable, but sometimes deliberate, type of violence against communities (Burton, 1997; Galtung, 1996; Gunder & Mouat, 2002), where the direct interests of central or international elites conflict with those of the local declining community. Conflicts, then, are rooted in policy, ethnic, class, and other socio-economic issues, that are also the roots of structural violence. For Galtung (1996), structural violence is any condition that prevents a human being from achieving her or his full potential. This type of violence is associated with specific policy acts (e.g. economic sanctions), and with more general processes resulting from deprivations (e.g. declining terms of trade, absence of job opportunities, and racial or sexual discrimination). Structural violence is caused by systems of unequal power that structure unequal life chances impeding the realization of the person's and the community's potentials (Barnett, 2008; Burton, 1997; Sen, 1999). Structural or symbolic violence, in summary, is about social justice and equality and its origins are linked to economic, policy, administrative and planning decisions that are made by actors with higher levels of power and that adversely affect communities (Barnett, 2008; Burton, 1997; Gunder & Mouat, 2002).

Although the analysis of conflicts is not new in the field of natural resource management (Buckles, 1999; Thomas & Twyman, 2005; West, Igoe, & Brockington, 2006), or in the field of rural development and planning, (Caldwell & Ball, 2003; Gunder & Mouat, 2002), normative approaches are usually based on the perspective of conflict resolution, which is limited to exploring how to reach a settlement of a conflict or a dispute (Daniels & Walker, 2001).

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Conflict in declining contexts is complex, which demands new ways of constructive change. Conflict transformation conveys this objective better, as it includes and goes beyond conflict resolution. Conflict transformation promotes structural changes in our way of thinking, suggests a set of lenses to analyze conflicts, and recognizes that conflict, as decline, is a continuous dynamic socially constructed (Lederach, 1997, , 2003). Lederach (2003:14) defines conflict transformation as:

> A process to envision and respond to the ebb and flow of social conflict as life-giving opportunities for creating constructive change processes that reduce violence, increase justice in direct interaction and social structures, and respond to real-life problems in human relationships.

This perspective explores the potential for constructive change that every conflict brings with it. Frequently, conflicts can result in prolonged cycles of damage and destruction. Lederach suggests that the key to conflict transformation "*is a proactive bias toward seeing conflict as a potential catalyst for growth*" (2003:15). This research approaches decline and conflict, emerging from the use of natural resources and other forms of capitals, from the perspective of conflict transformation.

2.4.3 Complex Systems Perspective and Social Systems

As a corollary of this literature review, this research suggests a systemic nature of the problem of decline and introduces some conceptual elements about complex systems that have informed research objectives, research method and analysis. In this context, the group of communities in the RRD, evolving through continuous processes of boom and bust, can be seen as a complex, evolving and inherently systemic phenomenon. A key element is that decline in rural regions is a systemic process. As in natural complex systems, the dynamics of a Complex Evolving Social System – CESS in decline are "*inherently dynamic and transformational*" (Byrne, 1998:51).

Complexity theory is concerned with the analysis and understanding of complex systems and the dynamic interactions within those systems; however, there is no single unified theory of complexity, but rather several theories arising mostly from the natural sciences. We are occupied here with social–ecological systems at a regional scale, but focused on the social subsystem. A Complex Evolving Social System–(CESS) can be defined as a group of interdependent communities comprising a unified region that is self organizing, and relatively autonomous. It includes: i) boundaries, which in this case are of political-administrative nature; ii) a system environment, composed of other systems; in this case the region is located in Northern Ontario, but influenced by the dynamics of neighbour regions located in Southern Ontario, Manitoba and Minnesota, iii) diverse inputs and outputs of socio-economic and environmental nature, iv) and components, that in this case are represented by diverse interconnected communities (First Nations reserves, municipalities, and unorganized areas) and actors (individuals and organizations) permanently interacting with each

other. In addition, hierarchy, goal-directedness, and information are also considered as part of the system's structure (Ewert et al., 2005; Vennix, 2001).

A rural region in decline, then, can be seen as a CESS in which equilibrium conditions have been disrupted. In such conditions non-linear relationships prevail, and the system becomes more sensitive to external influences, *"in far from equilibrium conditions we find that very small perturbations or fluctuations can become amplified into gigantic, structure-breaking waves"* (Prigogine & Stengers 1985: xvii, as cited in Mittleton, 2003:37). These conditions can be seen when a system is displaced from its usual ways of working and relating (e.g. after the closure of a mill or amalgamation of towns). At that moment the system may degrade into disorder (e.g. network decay, proliferation of conflicts, etc.) or create new order and organization – i.e. find new ways of working and relating–and thus create a new *coherence*. Diverse feedback loops underlie such transformation (Mittleton, 2003). Studying feedback loops facilitate understanding dynamics of decline in a CESS (see section 3.2). Complexity theory works as an explanatory framework of a declining CESS. In the following, seven key features of a CESS pertinent to analyze decline in a rural region are outlined (Allen, 1997; Ewert et al., 2005; McCarthy & Gillies, 2003; Mittleton, 2003).

Nested Systems and "Blurring" Boundaries: A CESS is nested but open, with "blurring" boundaries, and exchange diverse materials with the environment. In this process, the behaviour of the complex system (i.e. growth/decline) is a consequence of the structure of interacting feedback loops within the boundaries and their exchange of capitals with the external environment (Vennix, 2001) (see chapter 6). "Blurring" boundaries mean that we can only see parts of the whole; also, that CESS are partial readings of reality; finally, the way in which we define the boundaries of the CESS of interest affects what we see and the ways we assess its features (Burns, 2007; Packham & Sriskandarajah, 2005). Referring to these elements, Kemmis (2001, p. 99) argues:

> Systems theory...persuades us that this notion of a social whole is illusory. There are no 'whole' societies, or 'whole' systems, or 'whole' states which are the addressees of social theory or practice. There are just interwoven, interlocking, overlapping networks of social relations which galvanize power and discourses in different directions and in different ways in relation to the personal and social and cultural realms.

CESS are nested, hierarchical systems, with an organizational pyramidal structure. Thus, CESS are composed of interacting components (lower level entities or sub-systems) and is itself a component (or subsystem) of a larger system. The analysis of hierarchies focuses on levels of organisation and issues of scale, where the perspective of the observer of the system plays an important role. This research focuses on the region as a hierarchical system, as understood in regional development, with levels such as individuals, organizations, reserves and towns. There are also

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horizontal links such as among communities in the region, and between the RRD and other regions in Northern Ontario. Table 2.2 describes different hierarchical systems existing in rural regions.

Table 2.2. Hierarchies of Different Aspects of Natural Resource Based Production

Biophysical	Economic	Social
		World
	World	North America
Biosphere	North America	Canada – Ontario
Ecosystem	Canada	Rainy River District
Landscape	Resource-based region	Reserves and Towns
Field	Farm, Mine, Forest, Scenery	Households

Modified from Ewert et al (2005).

Relationships, Connectivity and Power: Relationships among the systems' actors are more important than the actors themselves. Rules guide the relationships among actors in a system, although actors have the ability to avoid or resist rules (Burns, 2007). As a result, a CESS is a changing system of multiple interwoven networks of relationships among actors, and of multidirectional and multidimensional flows of capitals, decisions, and ideas; although this flow is uneven as it depends on the types of connectivity (Gertler, 2001; Mittleton, 2003). This feature also means that quality of relationships among actors will determine the transformative potential of the system (Mittleton, 2003). Quality of relationships also refers to the fact that once a relationship between actors is established, they will permanently constrain and enable each other. In consequence a central feature of relationships among actors in a social system is power (Stacey, 2001).

Relationships can be cooperative or competitive. In a CESS cooperation and collective action enables all actors to benefit from the process. When co-operating: a) actors can reach goals they would not be able to reach alone; b) new structures of the CESS can emerge; c) new structures cannot be ascribed to single elements, but apply to the whole CESS. On the other hand, competition is also a social relationship in which social interactions are characterized by attempts at domination (power relationships). In competitive environments new qualities can also emerge, not as a product from collective action, but created by more powerful groups, or as a result of the use of advantages derived from higher positions in existing social hierarchies. Self organizing processes and emergent structures in both, cooperation and competition, are qualitatively different. In the latter, not all concerned actors can participate, so the emergent structures will reflect relationships of domination and asymmetric access to capitals, power and influence (Fuchs, Hofkirchner, & Klauninger, 2002).

Structure and Agency: In a CESS one can identify two levels; a micro and a macro level (see Figure 2.5). The components, actors or agents of the system are part of the micro level (Agency). Institutions and resources are emergent structures that form the macro level (Structure).

Interactions among agents produce with time formal and informal institutions (rules), regarding allocative (capitals) and authoritative (power) resources. Such structures emerge at the macro-level, and consequently influence the agents interacting at the micro level (Fuchs, Hofkirchner,

Figure 2.5. Mechanism of Self organization in CESS
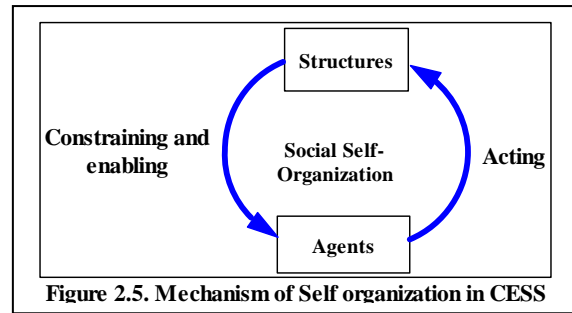
& Klauninger, 2002). Hence, structures are the vehicle and results of social action (Giddens, 1977:77, cited in Fuchs et al, 2002). As a result, agency both constrains individual agents through the emergent institutions which limit their scope of action, and enables them to develop new actions, engage in new decisions, and provide new options. Nevertheless the structure cannot determine the final outcome concerning whether or not these options would be realized because the final actions and decisions are taken by individual actors. This way actors self–organize, motivated by diverse interests to perform a task (collective action); the group decides the way to proceed (i.e. goals, time and methods). The interaction among actors produce in this way a spiral process of bottom-up and top-down causation, whose consequences are difficult to predict (Fuchs, Hofkirchner, & Klauninger, 2002). This mechanism is clear in resource-based economies where the dominance of the central industry facilitates specific responses from corporate actors, trade unions, and city officials.

Non Linearity and Feedback Loops: Relationships among components in a CESS are non-linear and characterised by feedback loops (Ewert et al., 2005; Vennix, 2001). Feedback loops are responsible for the behavioural characteristics of the system and its changes over time. Shifts in the dominance of loops within a CESS can occur (e.g. a positive loop with an initial low effect, might become dominant with time and transform the behaviour of the system) (Vennix, 2001). Feedback loops can be positive or negative. Positive feedbacks (reinforcing) drive change, while negative (balancing or moderating) maintain the stability in a system (Mittleton, 2003; Vennix, 2001). In a CESS, the degree and type of connectivity (e.g. weak or bridging ties) influence the strength of the feedback. These feedbacks, combined with contextual factors (e.g. global forces), and history, can change potential actions and behaviour of interacting actors (i.e. their capacity to react and adapt to change). Hence, effects are emergent, not predictable, and influenced by the self organization of the system, and produce something new that in turn can work as a new cause (Allen, 1997; Fuchs, Hofkirchner, & Klauninger, 2002).

More than the Sum of its Parts - Emergent Properties: A system refers to the whole that is more than the simple sum of its parts, which implies that the understanding of some components of the system is not enough to understand its overall behaviour (Allen, 1997; Ewert et al., 2005). As a

result, the structure and its individual components are equally important because it is their interrelationship within a boundary and its environment that determines the behaviour of the system (Flood, 1999; Mittleton, 2003; Vennix, 2001). In such an environment three types of patterns emerge: One is that a single initiative can have multiple impacts on a variety of places; the second is that interventions usually do not generate a linear effect; and finally, cumulative impacts might generate outcomes that are contrary to individual ones (Byrne, 1998). Byrne describes these trends as a fact where "*outcomes are determined not by single causes, but by multiple causes, and these causes may, and usually do interact in a non-additive fashion. In other words, the combined effect is not necessarily the sum of the separate effects*" (1998, p. 20).

Hence, a key element in understanding the dynamics of change in the CESS is that we have to look at them in their context and reveal at least some of the systemic connections that affect them (Burns, 2007). Growth and decline are macrostructures that interacting actors have allowed emerging. As a result, there can be also a negative side of emergence and self organization. McKelvey argues that in certain contexts emergence could be "compromised, biased, fragile, sterile or maladaptive" (McKelvey, 2003). In this regard, a declining process can be seen as a CESS where the emergent properties are based on deficient processes of communication and cooperation.

The Adaptive Cycle: From the perspective of ecosystem ecologists (Gallopin, 2002; Gunderson & Holling, 2002; Holling, 2004; Holling & Gunderson, 2002), the evolution of the structure of a CESS can be seen as an adaptive cycle conforming to four stages: a) Exploitation (r); b) Conservation (K); c) Collapse or release (Omega); and d) Reorganization (Alpha) (see Figure 2.6). There are two phases in this cycle: the first is the foreloop from r to K characterized by slow growth and accumulation; the second is the back loop from Omega to Alpha characterized by a rapid reorganization of the system leading it to renewal. When applied to a CESS in decline, this model suggests two elements: One is that during the progression from r to K, connectedness and stability increase making the system fragile, while diverse capitals and networks strengthen and grow. Competitive socio-economic processes facilitate the emergence of political and economic elites. The second is that during the back loop from Omega to Alpha, the social system may decline and a process of creative destruction can lead the system to a reorganizing process.

Figure 2.6. The adaptive cycle. Source: Gunderson and Holling, 2002

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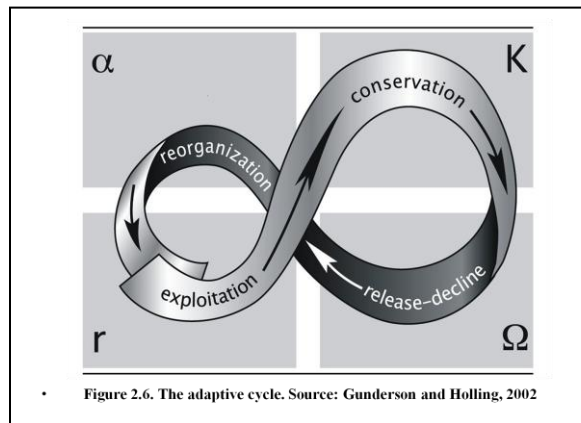
The strongly bound but fragile accumulation of capitals and networks during the conservation phase can be suddenly released through a process of decline (Omega) triggered by external forces such as industrial restructuring. Part of this reorganization includes emergence of new social networks, innovation and diversification of economic initiatives which potentially facilitate the consolidation of new forms of work. The adaptive cycle suggests a shift in planning and policy-making from a micro, command-and-control perspective, such as the one that prevails currently in the RRD, toward a regional one, inclusive of an adaptive initiatives perspective. This shift is key to reach a sustainable relationship between society and nature and initiate a process of regional sustainable development.

Resilience Properties: Resilience is the capacity of complex systems to absorb shocks (Berkes & Folke, 1998). This concept has become a "buzzword" and is usually automatically translated and locally understood as the capacity to return to previous states in which the community enjoyed booming economies based on the overexploitation of natural resources. On the contrary, resilience thinking significantly differs from the paradigm of maximizing returns in resource management (Kay, Boyle, Regier, & Francis, 1999).

This research argues that in a region in decline local actors need to avoid formulas that attempt to re-establish economic initiatives highly influenced by commodity cycles. Walker and Salt (2006) outlined several attributes of a resilient social-ecological system. From this perspective, a resilient region would value diversity in all dimensions as a source of future options and a system's capacity to respond to change. A resilient region would value ecological and social variability rather than attempting to control or homogenize it. A resilient region would be based on modular components, rather than overconnected systems that facilitate the transmission of shocks through the system. A resilient region would favour policies that encourage "slow" variables associated with thresholds, and monitor feedbacks to identify thresholds before the system cross them. Resilience in a rural region would be highly connected to the collective capacity to respond to change. Social capital (bonding and bridging), leadership, and networks facilitate this process. Rather than subsidizing efforts to prevent change, a resilient region would subsidize innovation, learning and experimentation. A resilient region embraces change and disturbance rather than denying it. A resilient region favours emergent governance structures, and recognizes the role of informal institutions. Finally, a resilient region recognizes the inherent value of natural capital and includes ecosystem services in development proposal and assessments. Hence, resilience in a social-ecological system involves not only the capacity to "bounce back" to what it was before, but also includes the general health of the system, the ability to self organize, and adaptability.

Kay, Boyle, Regier and Francis (1999, p. 3) describe the "kernel" of the propensities of self-organization as processes that

> "capture increasing resources (exergy and material); makes ever more effective use of the resources; builds more structure; and enhances survivability... Once a self-organizing process emerges and becomes established it manifest itself as a structure. These structures provide a new context, nested within which new processes can emerge, which in turn beget new structures, nested within which….Thus emerges a SOHO system, a nested constellation of self organizing dissipative process/structures organized about a particular set of sources of exergy, materials and information, embedded in a physical environment, that give rise to coherent self-perpetuating behaviours".

In a social system, networks of all types represent these emergent structures and their health reflects self organizing capacity of rural social systems. In general, self organizing capacity, in other words the strength of the social structure, aids in responses to decline. Which is because is so important encouraging and fostering emergent networks in the RRD, as well as initiatives oriented to retain or gain desired qualities, particularly those initiatives using more efficiently and sustainably local resources, promoting connectivity among local actors, and promoting new solutions to current problems in the region.

2.5 Conceptual Framework Designed to Guide the Research

The literature reviewed above confirms how decline has been usually approached as a static, mono-dimensional, conflict free, linear (i.e. with no feedbacks), isolated, and apolitical phenomenon. It is basically seen as a mechanical process through which people migrate from rural areas to the metropolitan system. This literature review has identified diverse gaps that are addressed in this work to construct an alternative reading of decline based on the following considerations:

First, available definitions of decline are static. As discussed above, the literature on decline generally lacks a detailed consideration of the diverse forces of change that, individually or in diverse combinations, represents the causal factors of decline. Frequently, feedbacks are seen as linear which leads to the confusion of causes with effects (e.g. a frequent problem with population out-migration). On the other hand, little has been said about multidimensionality (Force, Machlis, & Zhang, 2000) and multicausality (Polèse & Shearmur, 2006), which can qualitatively generate diverse types and dynamics of decline. Finally, the dynamic interaction and relationships between causes and effects of decline, and among actors in the region, suggest it should be analyzed from a systems perspective, an exercise not yet reported in the literature.

Second, available descriptions of decline are over-reliant on the demographic-economic interpretation of decline. This chapter has described the importance of an integrative analysis of the social structure of decline, i.e. the patterns of social relationships among social actors (Erickson,

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2001) through the analysis of social networks and conflicts. Furthermore, available descriptions describe decline as an isolated phenomenon. Although the role of distance and the centripetal power of a metropolitan center is recognized as important (McCann, 1987), the horizontal links and networks within and among communities in the region, and the vertical links with higher spatial scales (e.g. policy, industrial, environmental and social networks) that prevail in declining communities make them highly connected to global forces which demand a more detailed description.

Third, available descriptions of decline are conflict free. Predominant sectorial interpretations of decline have glossed over the diverse conflicts emerging in each dimension of decline, i.e. conflicts to access resources (economic/ecological), conflicts related to power (political-institutional), and conflicts within the community (social).

This research sees decline as a structural phenomenon (network based) that weakens the carrying capacity of the social system in rural towns and regions. Decline is, in part or entirely, socially constructed and characterized by multidimensional and dynamic features, such as network decay, social conflicts, and low capacity to combine diverse forms of capitals, which together disrupt equilibrium conditions, increasing the vulnerability of the regional system to external forces of change. Hence, we require a framework for understanding and depicting the cause and effect factors, as well as the mechanism of interaction of these factors, that affect the sustainability of rural small communities. This research proposes an overarching critical conceptual framework to analyze decline which includes: social networks and capitals, conflicts, and complex systems theory.

Links Between the Conceptual Framework and Planning. The case study research to be reported in the following chapters focuses on an empirical application of networks, capital, conflicts and complex system frameworks to improve the understanding of decline in resource-based communities. As a result, it is important to describe key links and bridges among these theoretical frameworks. Several planning research traditions have approached these frameworks directly or indirectly and in different combinations. To start, an important application of social capital in planning processes can be attributed to Jane Jacobs (1961). Jacobs thought of social capital as a spontaneous product of neighbourhoods that, among other effects, facilitates deterrence of crime (Jacobs, 1961). Furthermore, the interest in the analysis of cities from the perspective of networks can be traced back to Walter Christaller and August Losch and central place theory (Pumain, 1992) and forward to the notion of metropolitan systems and city regions (Bourne & Simmons, 2004), world urban systems (Friedmann, 2001) and the global city (Sassen, 1991).

From the planning perspective two important trends closely related to social networks, conflict, and capital are in a process of confluence. One is the evolution of the comprehensive rational model of planning towards a model more inclusive of democratic and citizen-driven perspectives (Healey, 1997). The second is that contemporary planning opposes concentration of power and favours participatory, communicative, and collaborative forms, all of them firmly enrooted in the theoretical underpinnings of NR (Wheeler, 2002). The network city concept and the study of social networks combines properly with these trends both in regards to the implications for how collective action in the city may develop and in its formulations of how the city works (Beauregard, 2005).

Two key movements in New Regionalism, participatory and collaborative models of planning, parallel network and complex systems conceptions. Both streams of thought rely on individuals and organizations volunteering to reach common goals, adaptively transform to cope with obstacles and shocks, and also to respond when success happens (feedbacks). Moreover, collaborative planning has the tendency to be communitarian in nature (Sandercock, 1998); it expects actors to be proactive, flexible, engaged, and connected through common goals. Networks and social systems are conceived similarly (Beauregard, 2005).

As a result, parallels between the selected theoretical frameworks and the collaborative model of planning are extensive and salient. As Beauregard (2005) suggests, it seems that collaborative forms of planning rely on the existence of networks to function properly. A plethora of productive activity, in theory and practice, around social networks, capitals and collective action can be observed in diverse fields (ecology, public health, social work, and policy networks). In the planning field, recent literature (Albrechts & Mandelbaum, 2005; Hutchinson & Vidal, 2004) has called attention to the importance of the emergent field of social networks for the planning profession.

However, despite the growing interest in these theories, few sources have empirically examined them in connection with resource-based communities. This research did not find particular exercises applied to declining resource-based communities. Moreover, while scholars argue that these interrelated concepts represent a new paradigm for rural development (Murdoch, 2000), and that the network society represent a new context for planning (Albrecht & Mandelbaum, 2005), its application in the planning process and its use as a mechanism of interaction with local actors is not well understood. Also, the frequently implied influence of these elements on the socio-economic and demographic qualities of rural regions is rarely subjected to detailed investigation. Three general points summarize the links among these theories.

The first link is that studies on social networks, capital, conflicts and complex systems and collaborative planning combine cognitive (micro), structural (meso) and institutional (macro) scales. These studies are expressed primarily in terms of relational concepts or processes assuming the importance of relationships among actors. These studies emphasize the potential role of diverse actors to solve local/regional problems and needs and create new opportunities; the structure and dynamics of local organizations; and the contextual factors that facilitate or hinder collective action.

The second important link among these theories is the recognition of the importance of "soft" elements, i.e. informal institutions, such as public participation, trust, and collective action. Also, the recognition of diverse flows of capitals and power through diverse networks conformed by local/regional actors and whose function is mainly based on sets of informal institutions.

Finally, social, political-institutional and economic networks have at their core the conception and implications of a collective nature. Hence the principles of collaborative planning and network theories can be combined to advance the understanding of decline and the creation of normative forms to plan in declining contexts.

These theories represent the conceptual structure in this research and are used as both frameworks for interpretation, as methodological tools to understand how decline happens, and for the identification of practical policy and planning implications.

2.6 Verifying the Conceptual Framework: International Review of Cases.

To test the proposed conceptual framework, a complementary literature review identified case studies of declining communities in which these theories were applied and evidence provided. No cases were found with a similar conceptual framework. Identified cases usually applied one of these theories. Contexts and methodological approaches differed in each study. Finally, these studies are presented as examples to confirm the viability of the application of the proposed framework.

Decline and Networks: The importance of networks is recognized in diverse studies of rural communities, and considered one of the central factors for sustainable rural development processes (Marsden, 2003; Martinez, 2001). For example, Bell (2007), using a case study in West Virginia, illustrated how the mono-industrial economy contributed radically to the concentration of political and economic power in a coal corporation, which facilitated a rapid decay of social networks, trust among social groups and local governance capacity. This situation permitted grave impacts on social well being, health and livelihoods of the rural communities (Bell, 2007).

Different cases describe attempts to create networks for development and recovery of small declining European towns in Spain, Ireland, Sweden and Finland (Árnason, Lee, & Shucksmith, 2004; Martinez, 2001) and Australia (Martinez, 2001). These networks, embedded in older social relations, were revived through regional partnerships oriented to construct new links between municipalities, businesses, and residents, and to improve socio-economic development, service provision, regional cohesion and diversification. These cases show how strong social networks are part of a broader social context from which planned development can emerge.

Decline and Capital: The role of capital, in declining rural communities is extensively described by Cocklin and Alston (2003) through six case studies of small rural communities in Australia and, more generally, for rural communities in North America by Flora and Flora (2004). In these studies various types of capital are seen as factors that underpin the sustainability of rural communities. These authors coincide in that communities in which the levels of available capital are shrinking may not be sustainable. Also, not all forms of capital necessary for the sustainable development of rural communities can be produced within the community, which raises issue about geographical scales, connectivity, and cooperation. Finally, social capital was considered as a vital ingredient that can determine the sustainability or decline of rural towns. Accessibility and interdependence among diverse forms of capital capitals were also identified as issues in declining communities (Cocklin & Alston, 2003; Flora & Flora, 2004).

Decline and Conflict: The role of conflict in declining resource- based communities is illustrated by Couch (1996) using the case of Centralia (Pennsylvania). Couch (1996) describes how social conflict can break down the social structure of a rural community. Different interpretations about how to control an underground coal fire caused a conflict between two organized grass-roots groups. Confidence in the local political system eroded and an intense intra-community conflict sprang. Conflict tore apart the bonds of communality and civility that were basis of the social fabric, and most of Centralia's one thousand inhabitants left the town. External government support intensified the alienation and diminished community's ability to cope with decline. Finally, this case illustrates how the combination of various factors (i.e. the fire, industrial decline and conflict) speeds up the process of social breakdown (Couch, 1996; Couch & Kroll, 1992; Kroll & Couch, 1990).

The analysis of this additional group of cases to test our conceptual framework provided three additional insights: First, political and economic power flowing through networks, plays a central role in the sustainability of rural communities. Deterioration of social networks affect levels of trust, governance and learning capacity, and the ability to access diverse capitals flowing through them.

Second, places and localities exist in a multi-layered social, economic, and institutional context. Issues faced by one community will influence its neighbours. As a result it is in the best interest of any community in a region to work together on shared issues. Third, rural communities can proactively work in the management of their capitals, invest in their networks to diversify the availability of weak ties and construct new bridges with the external world, transform their conflicts and channel this energy into new forms of work and connectivity. In summary, the collection of cases presented in this section demonstrated the pertinence of conflicts, capitals and networks frameworks as additional variables that help further explain the complex process of decline.

2.7 Conclusions

This chapter has described how decline, though not a new phenomenon, is increasingly occurring at wider scales. Decline has evolved from a homogeneous stakeholder groups operating in a comfortable corporative environment and parochially defined issue arenas, to a new complex environment with multiple interest groups, networks and conflicts. In this new context, gaps in the literature reflect how the approach to decline remains locked on to economic-demographic analysis and intervention is based on formulas that do not go beyond formal institutional arrangements, such as amalgamation of local governments and local organizations (e.g. school boards), and strategic planning activities led by top down approaches or initiatives.

The conceptual framework broadens the analysis of decline, beyond the notion that economic and demographic factors are the only drivers of decline. Furthermore, this framework suggests that focusing on "size type" indicators glosses over components of the social structure and vulnerable social groups, prejudges prosperity, and ignores local capital endowments and the wider regional context. As a result, the analysis of decline needs to be approached from a structural, multidimensional perspective. Although there are multiple factors involved, I argue that decline is mainly socially caused. Hence, it has a social structure, which is often conflictive, network based and dynamic. The analysis of networks, capitals and conflicts provide with additional tools to broaden our understanding of decline and also to as a fruitful approach to improve the understanding of contemporary regional development in peripheral rural territories.

Chapter 3. Case Study: The Rainy River District

3.1 Introduction

The Rainy River District (RRD) is located in the most south-western extremity of Northwestern Ontario, and is comprised of 10 municipalities, 11 First Nations Reservations, and unorganized areas (Statistics Canada, 2008). This is a typical rural region of the Canadian middle north (Hodge & Robinson, 2001), with a land area of 15,472 km² and a population density of 1.4 people / km² (Statistics Canada, 2008). Figure 3.1 offers a map of the RRD. This chapter includes four sections. The first provides a brief historical overview. The second describes the region using conventional socio-economic indicators. The third depicts central forces of change influencing current trends in this territory. Finally, conclusions are provided.

Figure 3.1: Map of The Rainy River District
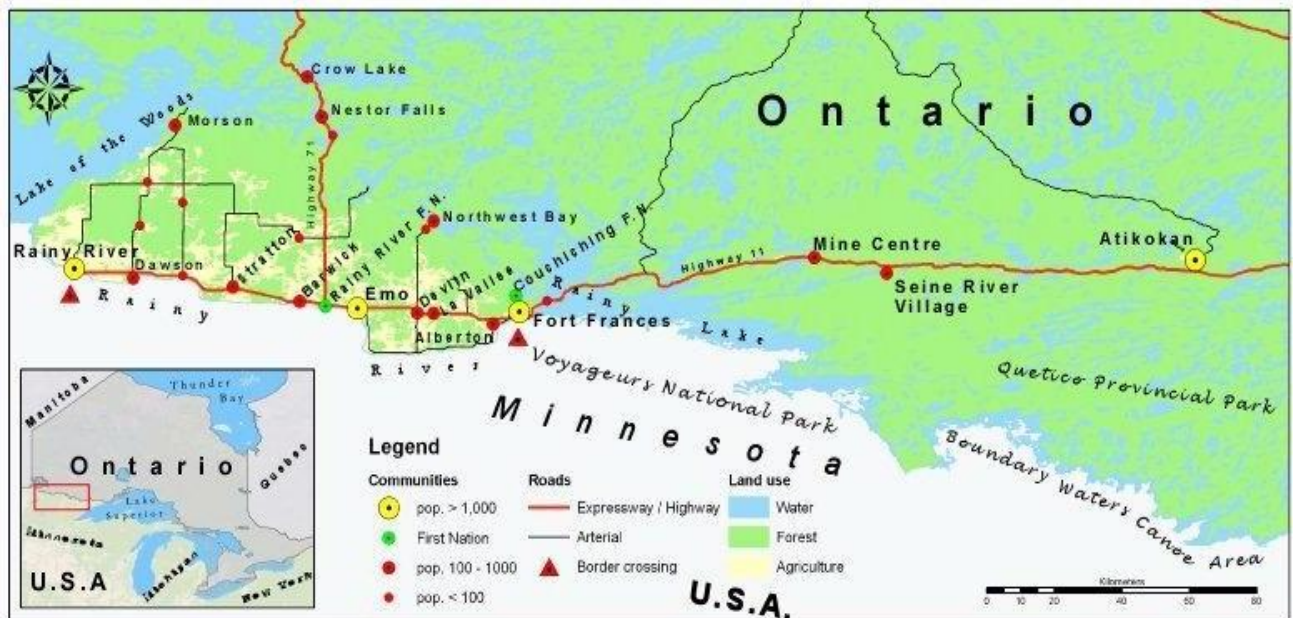
Sources: MNR 2008, ESRI 2003, DMTI 2008

3.2 An Overview of Historical Landmarks:

Major history of the RRD can be summarized in four stages that reflect three important reorganizations (see section 2.4.3) of the regional socio-economic structure: Early settlement, commercialism, industrial capitalism and post-industrialism. Major historical landmarks are outlined in Table 3.1.

Table 3.1. Major Historical Landmarks in the RRD

Year – Period	Event
Early Settlement of the RRD territory. Prevalence of Indigenous Regime	
7.000 BC	Paleoindians arrive to the region
900 – 1700 AD	Blackduck culture flourishes in the RRD
Commercialism, Exploration and colonization. Cooperative relationship between settlers and First Nations. Encounter of two cultures. First Reorganization of the Region	
1688	Jacques de Noyon explores the RRD.
1730	Explorations of Pierre La Verendrie. Start of the fur trade era.
1779	Montreal traders establish the North West Company.
Industrial Capitalism. Structural violence against First Nations communities. Second reorganization of the regional system. Emergence of industrial capitalism regime.	
1872	First recorded gold mine in the region – Atikokan.
1873	Treaty No.3 Signed. 7 Indian reserves created in the region. First steam boats navigate the Rainy River from Kenora to Fort Frances.
1874	The Government opens up the Rainy River area for homesteading.
1876	First Indian Act. Twenty Towns are surveyed in the RRD.
1880	Start of forestry industry in the RRD. First sawmill built in Lake of the Woods.
1898	Forestry industry incentivised with Ontario prohibition of log exports as a conservation measure.
1891	District's first elected municipal government – Alberton.
1900-1902	First Annual Fair of the Agricultural Society. Railroad connects Rainy River with Winnipeg and Thunder Bay. Atikokan Iron Mine commences activity.
1903	The Fort Frances post of the Hudson Bay Company is destroyed by fire. End of the fur trade era. Decline in mining activity.
1900-1915	The CNR linked up towns in the RRD by rail. Influx of settlers and pressure for land increases. Shevlin-Clarke and Backus lumber mills funded. Electric power station in Fort Frances constructed.
1920	Indian Reserves in the RRD merged into one, Reserve #11, 33.000 additional acres of land taken away from First Nations and made available for settlement. Residential schools attendance is made compulsory.
1930	Great depression. Decline in the lumber market. Backus and Kevling lumber and paper mills closed. First important bust of forestry industry.
1944	Atikokan Steep Rock Iron Mines starts producing.
Decline and transformation of the territory. Towards a third reorganization of the regional system. Emergence of post-industrial capitalism regime.	
1965	RRD – Thunder Bay Highway 11 open for service.
1970-1980	Technological development triggers closure of Atikokan two iron mines CNR ends passenger services to RRD.
1980s-1990s	Population decline of towns starts. First schools closed. Amalgamation of towns. Concentration of services and big box retail in Fort Frances begins, crisis in retail sector throughout the region starts. Population growth and strengthening of First Nations' social and cultural networks evidenced.
2000-2005	Big box retail strengthens in the RRD, decline of local retail across the region starts.
2005-2009: "The Perfect Storm"	Closure of the Atikokan coal power plant announced by 2014. Forestry industries in Atikokan close. High Canadian dollar and US housing market crisis. Bus service connecting the region with Thunder Bay canceled. Abitibi Bowater Corp. fills up for bankruptcy protection. The industry faces the second important bust since the great depression.

Sources: (Bray & Epp, 1984; Chapple, 1997; Donaldson, 2004; Fort Frances Museum, 2008; Lund, 2002; McQuarrie, 2003; Nault & Girard, 1999; Paulson, 1993; Reed, 2001; Viita, 1974).

1. Early Settlement: During the first stage, about 7,000 B.C., the first Paleo-Indians arrived in this territory. Their descendants, the Blackduck Culture, predominant between 900 A.D. and 1,700 A.D. were the immediate predecessors of modern First Nations culture in the area. They had a complex social, religious and economic structure and were actively involved in the trade network that extended across North America and which had in the RRD one of the most important centres of connectivity and trade (Fort Frances Museum, 2008; Matt, 1984).

2. Commercialism: Explorations of Pierre La Verendrye in the 1730's opened up a period of intense competition for the extraction of pelts, which predominated until 1903 (Matt, 1984; McQuarrie, 2003). These pre-capitalists activities marked the beginning of a historical connection between this region and international markets and the first socio-economic and political reorganization of the regional structure. Various authors emphasize initial strong cooperative relationships in this time period, between traders and First Nations (Bray & Epp, 1984; Lund, 2002; Reed, 2001).

The decline of the fur trade was accompanied by a movement of economic activity towards the stocks of timber and minerals available in the region (Fort Frances Museum, 2008; Matt, 1984; Nelson, Nelson, & Vogrig, 1976). To facilitate this process, in October 3, 1873, the Government signed the Treaty Number Three with the Ojibway Chiefs of Northwestern Ontario and northern Minnesota, who surrendered their claim to about 88,500 km² of land to the Government of Canada (Government of Canada, 2000; McQuarrie, 2003).

By 1874, Fort Frances, the first town in the region, was consolidating. The government completed the survey of the RRD under the Free Grants and Homestead Act of 1876. Land was laid out in twenty square townships; each of them subdivided in 160 acre blocks. By 1890 Fort Frances already had an established municipal government and a school system (Fort Frances Museum, 2008; Matt, 1984).

According to Innes, timber and lumber trade "*provided the scaffolding for industrialism*" (Innes, 1938) in Canada. Indeed, by the end of the 1800s, demand of timber for new towns, steamboats, farms, and Ontario's prohibition of log export facilitated the start of the forestry industry in the RRD (Bray & Epp, 1984; Fort Frances Museum, 2008; The New York Times, 1898). As a result, mills and towns boomed the RRD. Starting the 1900s, an industrial sawmill a dam and a powerhouse for electricity and grinding wood pulp were built in both sides of the Rainy River at Fort Frances by Shevlin-Clarke and Backus companies. This was the preamble of industrial capitalism (Fort Frances Museum, 2008). All together, the encounter of First Nations with a new wave of settlers

attracted by affordable land and new industries, developed into a clash for power and land, which was resolved through the second socio-economic and political reorganization of the region. The existing balance between original European settlers and First Nations was broken, causing a rapid decline of First Nations and facilitating the emergence of a new regime, industrial capitalism (Bray & Epp, 1984).

3. Industrial Capitalism: When the region was connected railroad, consolidated industries, and government programs triggered an economic and population boom. Demand for land for food production and expansion of towns followed. Public policies met this demand by leading new negotiations with Indian Reserves, and in 1920 the existing 7 Reserves were merged into one, and 33,000 additional acres were taken away from First Nations and made available for settlement. Concurrently, residential schools attendance was made compulsory, and cultural manifestations such as Pow Wows were declared illegal. Moving families onto reserves and "re-educating" the youngest generation broke their contact with the land and ceremonial sites while their ecological knowledge was lost as a result of the disruption of the social-ecological networks (Interviews with local leaders; Fort Frances Museum 2008). In this way, First Nations were subjected to a significant structural form of violence which undermined the resilience of the Aboriginal social-ecological system. A school principal at that time stated:

> With the Indian the change is a radical one. A change of dress...a social change, a religious change...And this is not so much for his own benefit, as for our own convenience. We want the land. We cannot have Indian hunters annoying our farmers and settlers (Atributed to E.F. Wilson, Principal of Shingwauk Residential School) (Fort Frances Museum, 2008).

This discriminatory process and despoliation of the land created the foundation of the contemporary conflict among communities in the region.

The 1930s Great Depression, a decline of the lumber market, and rising costs of lumber stands contributed to the closure of the forestry industry in Fort Frances, which also set the stage of contemporary boom and bust cycles. The Second World War marked the beginning of a new industrial era. In 1944 the Atikokan Steep Rock Iron Mine started operations, while a favourable market environment in the USA reactivated the forestry industry. A relatively low rate of protection facilitated the growth of the Canadian import share in the USA timber market from 5% in the late 1940s to over 13% in 1961 (Reed, 2001). This period of economic growth lasted until the end of the 1970s when combined factors including the economic recession of 1981, a sharp drop in lumber prices, the resumption of the lumber dispute with US, and the closure of the Atikokan iron mine, caused a new bust in the economy of the region. Short cycles of boom and bust and a slow trend of population decline in the urban fabric (See Table 3.2) have continued unabated since then.

4. Post Industrialism: The Atikokan iron mines, were supposed to work for 100 years (Nault & Girard, 1999) however industrial restructuring and technological innovations truncated this plan, and mine closures started in 1979. Since then communities have seen a slow process of population decline, with reducing employment opportunities, schools closing, and in the 1990s, a process of amalgamation imposed by the provincial government that reduced the number of towns to 10. Currently, the regional economy has been affected by a new combination of forces of change including industrial restructuring and out migration (section 3.4). These elements suggest a third potential reorganization of the region; the features of this stage are described in the following section.

3.3 Preconditions of Rural Decline in the Rainy River District

From a demographic and economic perspective, the RRD fits current descriptions and predictions of declining regions (Baltensperger, 1991; Bourne, Gertler, & Slack, 2003a; Polèse & Shearmur, 2006). The RRD reflects the seven preconditions for regional decline suggested by Polese and Shearmur (2005). One is that the region has a declining and ageing population. The region is also located in a rural peripheral area, which impedes commuting to work in nearby metropolitan centers such as Thunder Bay and Winnipeg. The limits of profitable exploitation of the regional resource base (timber) have been apparently reached. Finally, agriculture and tourism represent important sectors in the regional economy but are limited by diverse factors.

Demographics and Employment: The 2006 census reported a population of 21,564 inhabitants for the RRD. This culturally diverse population includes First Nations people, Ukranians, Finns, Scandinavians, Germans, Dutch, French and others making the RRD a replica-in-miniature of the Canadian mosaic of 30 or more years ago. Table 3.2 shows change in population and other indicators reflecting the crisis in the RRD for the intercensal period 2001-2006.

Table 3.2. Key Characteristics of the Rainy River District Municipalities

Municipality	Population		% Change	% DR (1)	ER (2)	UER(3)
	2001	**2006**				
Atikokan	3632	3293	-9.3	12	56.8	9.0
Alberton	956	958	0.2	2.9	73.7	5.9
Fort Frances	8315	8103	-2.5	9	59.7	7.3
La Vallee	1073	1067	-0.6	4.1	72.6	3.2
Emo	1331	1305	-2	15.1	60.1	4.7
Chapple	910	856	-5.9	16.7	61	2.4
Morley	526	492	-6.5	8	60	16.2
Dawson	613	620	1.1	12.5	46.9	16.4
Rainy River	981	909	-7.3	11	45.9	15.2
Lake of the Woods	330	323	-2.1	8	60	16.2

Source: Statistics Canada (2008): (1)%DR: % of occupied private dwellings requiring major repairs; (2)ER: Employment rate for Ontario 61.7%; (3)UER: Unemployment rate for Ontario 6.5%.

Commutes to work in nearby communities and high rates of out migration, explain why some of the towns (e.g. Alberton) are below the unemployment rate average in Ontario (6.4%). Atikokan has the highest rate of population decline, while all communities located at the west end of the region (e.g. Dawson), face high unemployment. The loss of 432 inhabitants in the last intercensal period represents the 4.5% of the total population in the region. Moreover, since 1971, when the population was 25,750, the region has lost 4,200 inhabitants or a 16.3% of its population, indicating a growing rate of population decline (Table 3.3).

Table 3.3. Percentage of Population Change Since 1971 for RRD and Selected Towns

Period/ Towns	1971	1971-1976	1976 - 1981	1981 – 1986	1986-1991	1991-1996	1996-2001	2001-2006	1971 - 2006
RRD	-	-3.8	-8.0	0.3	0.6	0.7	-4.4	-4.5	-16.3
Atikokan	6,087	-4.7	-23.3	-2.2	-6.9	-0.1	-10.2	-9.3	-45.9
Fort Frances	9,947	-6.3	-5.2	0.4	0.2	-1.1	-5.4	-2.5	-18.5
Rainy River	1,196	-8.7	-5.2	0.4	0.2	-1.1	-5.4	-7.3	-24

The closure of the mine in Atikokan in 1979 marked the start of a sustained process of population decline in the region. Source: Statistics Canada, various censuses.

Declining employment opportunities in forestry and agriculture, are unleashing a spiral of interconnected effects: youth out migration, retail fading from main streets (Figure 3.2), a shrinking tax base reducing municipal capacity to update services and infrastructure (Figure 3.2), while new policies (e.g. new standards for water and fire management) increase fiscal pressures and add momentum to the current crisis.

Figure 3.2. Images of retail (Atikokan) and Public Administration Crisis (Fort Frances)

Crisis in retail sector and closing schools reflect the crisis in the region, the concentration of services in Fort Frances and the impacts of big box retail. Source: Field work, summer 2008.

Finally, the effects of structural changes in agriculture, population decline and ageing is rapidly influencing rural land use and industrial structure in agriculture. In Table 3.4 this effect is

noticeable, as the number of farms and operators decline, particularly female operators. Also, replacement of labour by capital is reflected in increased use of technology, and increasing productivity with fewer workers.

Table. 3.4. Population Change and Agriculture in the RRD

Population Change and Agriculture in the RRD						
	Rainy River			**Ontario**		
Period	**2001**	**2006**	**%Change**	**2001**	**2006**	**%Change**
Total Number of Farms	326	312	-4.5	59,728	57,211	-4.4
Number of Operators	460	420	-9.5	85,015	82,410	-3.2
Total Male	330	315	-4.8	62,210	58,875	-5.7
Total Female	125	110	-13.6	23,530	22,805	-3.2
Average age all operators	51.5	52	1.0	50.9	52.8	3.6
Farms using computers	82	103	20.4	23,552	26,260	10.3

This table shows declining numbers of farms and operators, in parallel with ageing and increasing use of technology. Source: Statistics Canada, various censuses.

Location and Distances to Metropolitan Centers: Although the region is strategically located and offers access to the Upper Midwest of the United States and east/west connections to the prairies and Eastern/Southern Ontario, four groups of factors related to costs of production and communications, corporate mobility, regional planning and management, and access to goods and services, negate the advantage of this location and negatively influence development in the RRD.

The first group of factors is related to costs of production and communication. Rising costs of labour and a strong Canadian dollar, increase costs of production processes and affect profitability of exports from the region. Despite the NAFTA trade agreement, the softwood lumber dispute, cattle sanitary controls linked to mad cow disease, and post 9/11 security issues and border controls are considerably affecting efficiency and flows of trade and tourism. Although the RRD has been improving its telecommunications infrastructure, challenges remain in relation with support services, and human capital (NOWATA, 2008; Paragon, 2001). More recently, the closure of the Greyhound bus passenger and parcel services practically left this region with no public transportation services.

Global trends locate management and marketing of central industries in locations far from resource-based communities. In addition, central industries (Abitibi-Bowater and Aynsworth corporations) and operations for the exploitation of forests in the RRD are funded by capital from outside the region. These elements represent an important geographical and cultural distance from the small communities producing the resources. Furthermore, corporation mobility is always a possibility. The outcome is an uncertain economic environment with companies having little

commitment to local societies, and operating only in response to international market demands (Ciccantell & Bunker, 2005; Reed, 2001).

From an administrative perspective the RRD is a Census Subdivision located in Northwestern Ontario (See Figure 3.1). However, the region is also located within the area covered by Treaty No. 3, which is undertaking a governance initiative to establish a modern form of traditional government (Government of Canada, 2000). Also, the region is subject to different sectorial regionalizations, which causes MNR, MNDM, Industry Canada, and other ministries to differ in their territorial approach to manage and plan for the region (Government of Canada, 2005, 2006b, 2006c, 2008a). Moreover, companies operating forestry and mining initiatives approach the region from the perspective of availability of natural resources. Together, these elements suggest a complex governance system of the region, linked to locations of specific natural resources, influenced by economic, historical and political administrative processes, and planned from the perspective of diverse sectorial needs.

Finally, residents frequently travel to various places in order to supply their needs. As part of this dynamic, local actors access goods, services and amenities for their business and household needs in the major centers within the region, i.e. Fort Frances and Emo, but also cross the border at International Falls and Baudette (Minnesota), or in Winnipeg and Thunder Bay. Therefore the economic and socio-cultural catchment areas of every community overlap with those of neighbouring communities within the region and outside the formal boundaries of the RRD. Declining services and employment within the region is increasing this mobility, which further impact the economic viability of local retail and other services.

The Regional Economic Base, Key Characteristics: The RRD comprises communities whose economy remains heavily dependent on natural resources: forests, soils, wildlife, and sceneries, commoditized through forestry, agriculture and tourism. Using Statistics Canada data, this research developed a Competitive Advantage analysis for the 10 municipalities in the region from 2001 to 2006. Appendix 1 presents a summary for the region and a community profile by business concentration for selected municipalities in 2007. Figure 3.3 presents a summary of this analysis for selected industries which reflects three central elements. One is that despite the growing use of technology, which increases efficiency but replaces human capital and reduces employment (Clemenson, 1992) (e.g. employment in manufacturing with -19.2%), forestry continues to be the first employer, and the economic cornerstone in the region. The second element is that services are the second aggregated employer in the region with an increasing trend (e.g. municipal services with

50

23.1%, and education with 18.8%). Finally, mining, quarrying, fishing and trapping industries, generated less than 100 jobs for the whole region. In every community, forestry is combined with agriculture, tourism and other service activities, which creates an economic and land use mosaic across the region. The increasing number of jobs in public administration is happening basically in federal and provincial administrative institutions.

Figure 3.3. Competitive Advantage – Number of Jobs for Selected Industries 2001-2006 in the RRD
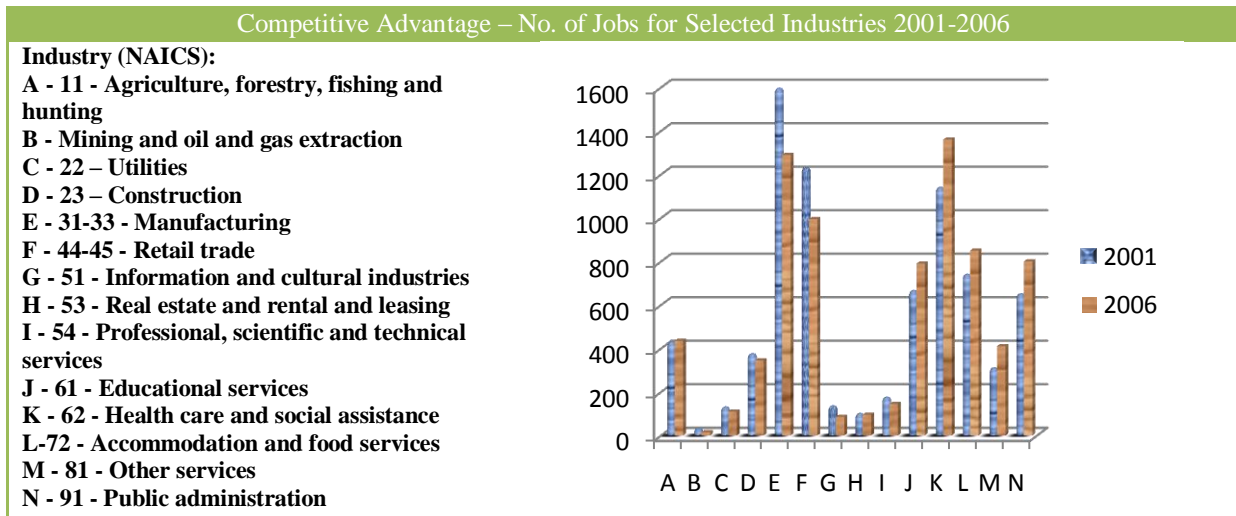
In this Figure, is noticeable the process of decline in industries such as manufacturing and retail, and the strengthening of the service sector in education, and health care. The table does not reflect the recent crisis in Atikokan with the loss of its two major manufacturing industries, neither the impacts of the 2008-2009 economic recession. Source: Statistics Canada, censuses 2001-2006.

The competitive advantage - sector classification analysis, based on employment and Location Quotients – (LQ), shows that Fort Frances, Atikokan, and Chapple, had the highest number of jobs and LQ (very high) in logging and forestry industries. High levels of LQ demonstrate the heavy economic and employment dependence on the forestry industry. Also, Atikokan and Fort Frances had the highest level of jobs and LQ in manufacturing (high and medium respectively) as a result of the location of major forestry industries in these towns. Chapple reported the highest level of jobs and LQ (very high) for 2001 in agriculture and related service industries. Simultaneously, these three communities reported the highest number of jobs and LQ for accommodation, food and beverage services.

Atikokan, Fort Frances, and Chapple appear to be the most fragile communities because of their high dependence on forestry industry. This condition is reflected currently in Atikokan where closure of the main two mills in 2008 caused important job losses; today, the main employer is the Ontario Power Generating Station, which is also under threat of closure by 2014. The closure of this

plant will bring additional job losses, the loss of rail shipments of coal, and the closure of the train line from Thunder Bay, through Atikokan and on to Fort Frances (Common Voice, 2007).

Nevertheless, the Carvalho Scale, an indicator that expands the idea of the LQ and includes in its analysis internal competitiveness and regional trends, shows that some services are thriving in the region, e.g. transportation, education and health, and communications services. Transportation is nevertheless linked to forestry sector, and tied to the behaviour of this industry. Communications is an emergent sector linked with the recent connection to the broadband internet network. This indicator reveals two important potentials for the region: One is health and education services, which are also among the most important regional assets. The second is tourism, which together with available natural endowments represent an important future for ecotourism, although infrastructure and performance of related services demand sustained improvement.

In summary, the competitive analysis shows that the economy of the region is based on forestry, agriculture and related services, which confirms its natural resource dependence. These activities are located in an economic axis comprised by four towns, Atikokan, Fort Frances, Emo and Chapple, where central mills and socio-economic services are concentrated.

Table 3.5. Post Secondary Educational Attainment			
Post Secondary Educational Attainment	Rainy River District	Northern Ontario	Ontario
Total	55%	56%	61%
University	16%	14%	26%
College	25%	25%	22%
Trade/apprentice	13%	13%	9%

Source: Statistics Canada, Census 2006.

The role of First Nations communities in this scenario is pivotal; the Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services in Fort Frances estimates that First Nation communities contributed almost $62 million to the $530 million local economy in 2006. This role is increasing in the area with new economic development initiatives and the recently created Rainy Lake Tribal Development Corp investment group. Nevertheless, First Nations continue affected by diverse challenges in levels of education and poverty (e.g. an average income of $32,000 a year for 2006, compared to $61,000 a year for non aboriginal families (Statistics Canada, 2008)).

Regarding education, the general rates of post-secondary education attainment are lower in RRD than the province as a whole. However, the region has a higher attainment of college diplomas and apprenticeship qualifications (see Table 3.5). Rates of education among First Nations people tend to be lower, particularly for those living on reserves, where, in 2006, approximately 45% of the adult population had not completed high school (2007 Labour Force Survey).

3.4 The "Perfect Storm"

Global forces are increasingly affecting the regional economic base and demographic dynamics in various ways. First, Canadian forestry industry is heavily affected by the softwood lumber dispute with the USA. This industry is economically sensitive to variations in the exchange rate and to energy costs (Reed, 2001). In addition, the role of the internet in decreasing paper use and new investments in low cost regions are transforming the industry and creating powerful competitors to Canada. Scandinavian investments in China, fast growing tree farms in Chile and Brazil, expansion into the unexploited forests in Russia, and USA investments in eucalyptus plantations in Uruguay, are some examples of initiatives that are pushing down global prices and restructuring traditional trade flows (Campbell, 2006; Clemenson, 1992). In the RRD, forestry has being affected by 2008-2009 crisis in the USA housing market, the high Canadian dollar, lower demand for paper, and a recent slowdown of new housing projects in Canada. As a result, two mills in Atikokan were recently closed. The Abitibi-Bowater mill in Fort Frances continues adapting to changing markets by introducing new technologies, which further decreases employment. The Ainsworth mill in Barwick is facing important financial challenges. Finally, a recent updating and approval of the Endangered Species Act is considered a factor that increases the uncertainty in the forestry industry (Interviews with mayors and mill managers, RRD, summer 2008).

Second, restructuring is also happening in the agriculture industry, mainly based on the production of beef. BSE cattle disease restricts beef exports and raises production costs. The high cost of agrochemicals and distance to markets also raises production costs. Also, differences in agricultural policies with Manitoba, make difficult for local farmers to access the Winnipeg market, the most important for RRD farmers. Together, these factors inhibit exporting from the region which is reflected in the reducing numbers of traditional farms (see Table 3.4). Moreover, ageing farmers and youth migration are factors affecting dairy farms which are thus shifting to the less labour intensive beef production. Only four dairy farms remain in the RRD and there are no third generation of dairy farmers (Interviews with farmers and RRD Federation of Agriculture leaders, 2008).

Third, even though the region has important natural amenities such as the Quetico Provincial Park, the Rainy River, the Rainy Lake and Lake of the Woods, key obstacles hinder the tourism industry. Strict controls at the USA border, rising prices of fuel, and sharp fluctuations of exchange rate, are negatively influencing the number of tourists visiting the RRD (NOWATA, 2008). A related factor is the crisis in the retail sector reflected in closing businesses and a loss of 19.2% of jobs in this sector between 2001 and 2006. This retail sector crisis is happening as a result of the combined effect

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of population loss, the influence of big box retail (Wal Mart and Canadian Tire) in Fort Frances, and increasing mobility of customers who are tending to shop more in this town, or in the nearby towns of International Falls and Baudette, Minnesota (interviews with local economic development officers, retail managers and tourism operators, summer 2008).

The difficult situation briefly described in this chapter is aggravated by the fact that all these factors have been affecting the region simultaneously, resulting in a complex socio-economic process that has been termed locally as the "perfect storm" (Common Voice, 2007).

3.5 A Region in Decline?

The RRD as presented above, verifies all the preconditions suggested by Polese and Shearmur (2005). Thus, the RRD could be declared a region in decline. However, the following findings suggest otherwise:

First, although the population in the RRD is declining and ageing, the First Nations population living in the region experiences a high rate of growth. Also, population decline is occurring faster in towns at both extremes of the region (Atikokan and Rainy River) than in the more stable center (Emo, Fort Frances), so that population decline is neither spatially, nor structurally uniform. The last two censuses corroborate this statement. First Nations communities in this territory have had a significant increase in their population from 3,040 in 1996 to 4,615 or 51% in 2006 (Statistics Canada, 2008), a fact that is hidden by the general population decline in towns, as seen in Figure 3.4.

Figure 3.4. Population Trends in the RRD

Census	First Nations	Total RRD	Ontario
1996	3,040	23,163	10,753,573
2001	3,635	22,109	11,410,046
2006	4,615	21,564	12,160,282
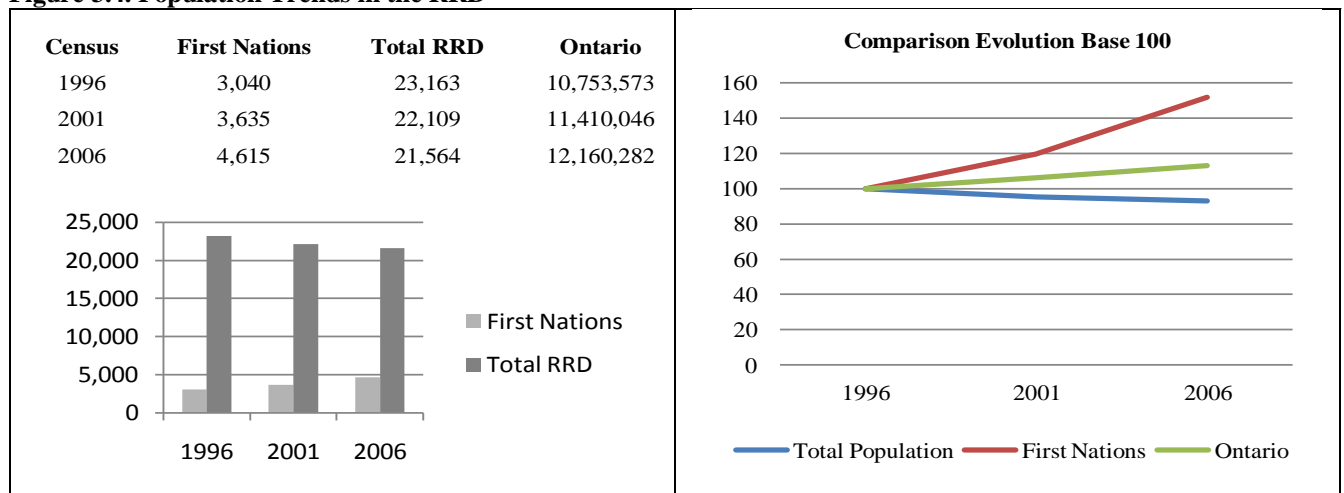
The Figure show how a general view on population growth glosses over the growth in First Nations communities, which is now a sustained trend. Source: Statistics Canada.

Although First Nations continue to face important challenges of poverty, unemployment, and access to opportunities, the new generation has higher levels of skills and education, and conserve a sense of belonging, strong traditional values, and more important, willingness to stay in the region. This younger generation is taking over the leadership on the Reserves, so First Nations are starting to implement successful economic initiatives in the areas of retail, services and technology (Interviews with First Nations Chiefs and leaders. Summer, 2008).

First Nations are also progressing towards higher levels of organization, which is reflected in the recently created Tribal Council that includes 9 out 11 First Nations communities in the territory. This process results from the confluence of two groups of factors starting in the 1980s. One is decline of the staple economy which is reducing the pressure on land and facilitating the process of land claims. The second is the current political conditions for the recovery of the status of First Nations as a sovereign nation and for the reduction of the structural violence over them. Together, these trends suggest that decline in the RRD is facilitating the recovery of a marginalized social group which will have an important future influence in the demographic, economic and governance system.

Second while the aggregated economic and demographic indicators suggest a declining region, a case by case observation discovers three types of communities in the RRD. The first type is declining towns such as Dawson and Lake of the Woods. The second type is more stable towns with an important capacity to adapt and change despite population loss and periodical busts, such as Emo and Atikokan. Finally, there are communities slowly growing, not only demographically but also economically, socially and politically, those are typified by First Nations reserves such as Rainy River and Couchiching.

Third, there is a collection of small but successful innovative efforts, in agriculture, manufacturing, and tourism industries which are not noticeable through LQ or other traditional local economic development indicators. For example, a slow, steadily trend to high value manufacturing and agriculture, incentivised by local futures development corporations, is an emerging alternative. This process results from accumulated experiences with boom and bust cycles and the existence of mature and diverse organizations, reflecting a complex social structure.

Fourth, there is decreasing pressure on natural resources as a result of the crisis of the staple economy, which is facilitating the recovery of the natural system. For example, fisheries in the Rainy Lake are improving after reaching a critical situation in the 1980s, although restrictions are still needed such as the moratorium on sturgeon harvest (MNR, 2008). As a result, tourism related activities such as recreational fishing, fishing festivals and tournaments are strengthening in almost all

towns and reserves in the region. This trend also happens in other latitudes. For example, in the US prairies, the decline of agriculture and rural towns facilitated the recovery of the buffalo and the simultaneous strengthening of First Nations, who recently had their first traditional buffalo hunt in generations (Mitchell, 2004).

Finally, there are important assets available in the region, which are not easily quantifiable (e.g. social capital and social networks). These "soft" factors are also not considered by traditional methods and exercises relying on "size type" indicators (Bourne, Gertler, & Slack, 2003a; Force, Machlis, & Zhang, 2000; Polèse & Shearmur, 2006).

The above elements raise questions about the sufficiency of available predictions and approaches to describe decline, and also the predominant negative perception on decline. Some positive and negative elements of decline are summarized in Table 3.6.

Table 3.6. Positive and Negative Sides of Decline

Negative sides	Positive sides
1) Rural Town sustainability endangered. 2) Out migration and loss of accumulated knowledge and experience. 3) Social fragmentation and internal conflicts. 4) Network decay and decline of capitals. 5) Structural conflicts.	1) Recovery of the natural subsystem and natural resource pools. 2) Recovery of marginalized social groups. 3) Emergence of new opportunities for land use. 4) Conditions given for a new reorganization of the region. Opportunity for the introduction of a new model for sustainable regional development.

A closer analysis of "declining" communities reveals unexpected features and important positive sides, particularly when analyzed from a regional perspective. Source: Focus groups, summer 2008.

The positive side is perceived by some municipal and ministries' officers in the RRD, who consider that decline represents an opportunity to work for sustainable communities:

> We need to look more for a small stable community that benefits from our habitat. I don't want to turn this into an urban world, and I am here because I don't like an urban world.... We have to accept the fact that we are not growing, we need a model that is not based on growth but on sustainability, a model that is based on our lifestyle and assets, and quality of life [FF. M4].

3.6 Conclusions

The RRD mirrors the process of decline and urbanization in Northwestern Ontario, the Canadian middle north, and similar regions worldwide. This description of the RRD confirms the impacts of demographic and economic factors over small communities suggested by various authors (Bourne, Gertler, & Slack, 2003a; Polèse, Desjardins, Shearmur, & Johnson, 2002; Polèse & Shearmur, 2006). From this perspective, the RRD could be at risk, and facing an unavoidable process of decline. However, this analysis verified not only suggested preconditions of decline, but also other factors indicating a potential new structural reorganization of the territory.

Although several of the original communities in the RRD have declined and disappeared, other managed to recover and thrive again. Resilience of First Nations communities is particularly significant in this scenario. Thus, "size type" indicators alone gloss over the positive effects of decline as well as 'soft' elements that represent assets, potentials and trends existing in the region that can be the key for the transition towards a new path of sustainable development. This research argues that restricting the analysis to demographic and economic indicators is insufficient to completely understand, neither to predict decline; limitedly explains divergent processes within the region; and cannot explain emergent socio-economic trends (e.g. First Nations growth within a declining region). In other words, limiting the analysis using "size type" indicators may lead not only to inappropriate policy decisions, but also, and more importantly, to ignoring transitional processes occurring in the region.

The analysis in this chapter also suggests: First, regional decline is a complex problem reflected in the multiple actors, the governance system, and forces of change interacting simultaneously. Socio-economic, environmental and political factors emphasize its multidimensional nature. Second, the dynamics of regional decline are reflected in process of permanent change as a result of the influence of internal and external forces of change. This dynamic has facilitated two previous regional reorganizations. Currently the region is in a process of transition towards a third reorganization facilitated by the process of decline of the staple economy. Third, population decline cannot be taken for granted as an indicator of decline since it is neither spatially nor structurally uniform. Finally, the concept of decline has a well recognized dark side, but a less known and explored bright side can potentially lead to social and environmental renewal. The nature of the regional system facilitates decline of some features and the emergence and renewal of others.

Hence, an alternative reading is necessary. The brief analysis presented in this chapter, in contrast with conclusions provided by other studies of declining rural communities, leave more questions than answers, such as: How does decline happen? Why do the local communities not react? What are the factors impeding rural communities from cooperating, and consolidating by taking collective initiatives to regenerate? Finally, why did the communities not alter the path dependence in which they have been for the last 100 years based on the exploitative nature of natural resources development? This research sought to explore these and other questions presented in the following chapter.

Chapter 4. Case Research Methodology

4.1 Introduction

This research is based on interpretive philosophy, and develops an exploratory and inductive research approach based on case study methodology. The selected case study was explored through a combination of qualitative methodological tools including intensive interviews, focus groups, group model building, and network mapping.

This chapter includes three sections. The first section includes the research philosophy that orients the analysis; the second section describes the research approach; finally, methodological tools used to collect the information are described.

4.2 Research Philosophy

The research is exploratory, guided by interpretivist philosophy. Interpretive social science approaches social reality as diverse phenomena that are socially constructed. Interpretivism's central goal is to understand what meanings social actors give to reality, not to determine general laws that explain how reality works separately from these interpretations (Schutt, 2003); in other words searching for universal laws:

> …can distract from learning what people know and how they understand their lives. The interpretive social researcher examines meanings that have been socially constructed...There is no one reality out there to be measured; objects and events are understood by different people differently, and those perceptions are the reality – or realities- that social science should focus on (Rubin & Rubin, 1995, p. 35).

Interpretivists believe that scientists, as one more social actor, construct an image of reality based on their own experiences, prejudices and interactions with other actors (Schutt, 2003). Hence, reality is socially constructed and the goal of a researcher is to gather and understand the meanings that people give to this reality.

From a complementary position, Flyvbjerg (2001) warns that the problem for social sciences is that its background conditions, i.e. the social subsystem, are not physical facts, as they are in the natural subsystem. Rather, they are context dependent interpretations that can change at any moment what makes difficult for predictions to operate, " *...the natural sciences are relatively cumulative and predictive, while social sciences are not and never have been*." (p.45). Giddens sees this as part of a general condition of modernity in what he calls the "*institutional reflexivity of modernity*" or modernity's "*tendency to continually react back upon itself and generate (to some extent unpredictable) new processes of change*" (Ibid, P. 33).

The constructivism paradigm extends interpretivist philosophy by emphasizing how different social actors construct their beliefs (Guba & Lincoln, 1989; Schutt, 2003). Constructivist research is based on an interactive process that starts with the detection of diverse stakeholders in a particular social setting. As such, it is a learning process in which the researcher first identifies what diverse interest groups think and then develops a shared perspective on the research problem (Guba & Lincoln, 1989).

Using a constructivist approach and a systems perspective, this research has revealed that decline in rural regions is part of the process of rural development. Hence, decline is not the opposite of growth or a synonym of decay, but a stage on a historical process that may take diverse paths for resolution. A CESS suggests that specific indicators help to describe features of rural communities at particular moments in time, but they cannot predict which is the next step or direction in the process of development. This qualitative difference leads this research to explore decline from the perspective of the local actors involved in the process of rural development in order to find what are elements of the social structure facilitating or deterring, the meanings of decline from the perspective of the local communities, and the realities that are entangled in these rural communities.

4.3 Research Approach: A Qualitative Case Study

The exploratory nature of this research motivated the selection of a qualitative approach. Qualitative research facilitates understanding reality of social systems as actors experience it, rather than in categories predetermined by the researcher (Schutt, 2003). Qualitative research is defined as the "*non – numerical examination and interpretation of observations, for the purpose of discovering underlying meanings and patterns of relationships…*" (Babbie, 1986, p. 385).

The main focus of qualitative research is to understand the ways in which people act and account for these actions (D. Gray, 2004). Among other, qualitative research has the following characteristics (D. Gray, 2004; Newman, 1997):

- Researcher's role is to gain a comprehensive overview of the study, including the perceptions of participants;
- Concepts are organized in themes, generalizations and taxonomies;
- Data are in the form of words or drawings from observations, and transcripts;
- Research procedures are particular, and difficult to replicate; and
- Analysis proceeds by extracting themes or generalizations from the evidence and organizing data to present a coherent, consistent picture.

The research is inductive in nature and based on case study methodology. Inductive logic is facilitated by the conceptual framework proposed to guide this research on the process of decline of

rural regions. The case study approach facilitates the exploration of decline in the RRD as a single entity or phenomenon and allows this research to retain "*the holistic and meaningful characteristics of real life events – such as individual life cycles, organizational and managerial processes, neighbourhood change…*" (Yin, 1994, p. 3). Yin (1994:13), defines the case study as an empirical enquiry that "*investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident*". The following arguments justify the use of case study in this research. First, this research is trying to reveal cause-effect relationships in a declining process and not just describing the phenomenon. Second, the research is looking to uncover the relationship between decline and the context in which it is occurring. Third, research questions are asking why and how the phenomenon is happening (D. Gray, 2004; Yin, 1994). Finally, case study is considered the best approach for capturing the impact and details of context dependent elements and processes (Seale, Gobo, Gubrium, & Silverman, 2004) and to be used where it tends to be difficult to collect information using traditional surveys (Franke, 2005).

4.4 Research Methodological Tools

The conceptual framework constructed in chapter 3 informed the selection of methodological tools in two ways: 1) the study of decline is inherently a multidimensional and complex task, what demands the use of a combination of methods; and 2) the focus on networks, capitals and conflicts defined the use of different, but complementary, methodological tools to obtain a richer understanding of decline and a more comprehensive picture of its structure and dynamics.

Several arguments justify the combination of methodological tools. Bhaskar sees these combinations as convenient because the real world is ontologically stratified and differentiated, and consisting of different structures that produce emergent processes while preventing others from occurring (Bhaskar, 1994). Mingers refers to these combinations as methodological pluralism, with the advantage of facilitating the exploration of different aspects of the situation. Research is a process that advances through different stages, requiring particular methods to provide a more comprehensive research outcome (Mingers, 2001). From a similar standpoint, Tashakkori and Teddlie (1998) suggest three additional advantages to methodological combinations:

- Triangulation: Facilitates to validate data by combining different data sources,
- Creativity: Identifies new factors that encourage further research;
- Expansion: Widens the research scope to better understand the research problem.

In summary, mixed methods cast different lights on the selected case study. Also, the use of multiple methods enhances the scope for insight generation and enables important data, which is often

discounted in traditional evaluations. Research methodological tools included a literature and documental review, interviews, focus groups, group model building, and network mapping.

Literature and Documental Review: the central goal of this tool was to explore and analyze two groups of documents. One group included secondary quantitative data about socio-economic and environmental features in the region. The second group included studies, plans and initiatives conducted at the regional level. With this purpose, specialized journals and books related with decline were covered and a documental review was conducted in the RRD including municipal plans, and government and historical documents, available in museums, libraries, and municipal offices.

*Interviews***:** A semi-structured interviews (Rubin & Rubin, 1995; Schutt, 2003) method was applied in this research. The goal with this tool was to reach a comprehensive description of the actor's environment, participation in networks, access to capitals, conflicts, and interpretations of decline in their own terms (Rubin & Rubin, 1995). Interviews followed a pre-planned outline approved by the Office of Research Ethics at the University of Waterloo, which included the following topics:

- Specific features of local communities related to decline, such as the ongoing challenges affecting the level of well being, the causes and effects of these challenges on the community, and the forms and initiatives people devise to respond to these challenges.
- The characteristics of the central industries: forestry, tourism, and agriculture, the challenges they are facing and the organizational and institutional structure.
- The characteristics of the local development initiatives: what are the initiatives, implemented or planned by individuals and organizations, oriented to diversify and improve the economy, and what are the forms of cooperation and collaboration among the diverse organizations and institutions in the community in this field.

Selection of interviewees used a purposeful snowball technique applied until the saturation point was reached (Schutt, 2003). The persons selected were knowledgeable about particular aspects of the process of decline, representative of the range of perspectives explored (Rubin & Rubin, 1995) and included people of different ages, gender, ethnicity, and occupation (Leonard & Onyx, 2003). A total of 186 interviews were conducted in ten municipalities and two First Nations reserves (See appendix 4). Email and telephone contact was made with each respondent to set up an interview. Respondents signed a consent permission form on standard University of Waterloo ethics procedures before the interview. All interviews were recorded, transcribed and coded to protect confidentiality of interviewees.

Focus Groups: Focus groups in this research were formed specifically for the purpose of this research, led in group discussion about the problem of decline for 2 hours in average. Focus groups involved 7 to 12 people, a number that facilitates discussion by all in attendance (Schutt, 2003; Seale,

Gobo, Gubrium, & Silverman, 2004). Focus groups also followed a pre-planned outline of topics, approved by the University of Waterloo Office of Research Ethics:

- Characteristics of the current crisis: identification of internal and external causes, identification of effects, and identification of effects that can in turn be linked to the causes (feedback-loops).
- Role of public policies: influence of local, provincial and federal policies and planning processes affecting the process of decline. Discussion of ways to improve planning and policy processes.
- Features of the current local carrying capacity: The current carrying capacity on the local livelihoods and well being. Causes and effects of the current carrying capacity. Formal and informal initiatives to address decline and the levels of the current carrying capacity.
- Vision of the local community in 20 years.

Four focus groups were organized: Two covering the east of the region, one in the center and one in the west.

Group Model Building: This tool is based on system dynamics. System dynamics seeks meaning in the complex mosaic of interrelationships between people, organizations, and their environments (Flood, 1996). These relationships are observed in this research through relational data, which facilitates the observation of dynamics that are not always visible through the analysis of individual interactions or quantitative data (Wasserman & Faust, 1994). The systemic approach applied in this research focuses on the following four aspects (Weil, 1997):

- Identifying dynamics of linked and interacting processes causing decline.
- Making more visible the effects of decline as a whole which cannot be aggregated from the effects of its individual parts.
- Identifying enabling and disabling patterns which run across the system.
- Making evident the importance of usually discounted evidence, such as taboo subjects, conflicts, power, and small changes that can impact the wider system.

Group model building (Vennix, 2001) is a method used in this research to qualitatively modelling and representing diagrammatically the causes, effects, and feedback relationships between diverse events and processes causing decline in small rural communities. This method facilitates the collection and interpretation of local actors' perspectives and the factors influencing current carrying capacity in the RRD. As a result, the final outcome is a "mental model" that represents the views of local stakeholders. This method facilitates the analysis and depiction of the cause-effect and feedback relationships among economic, political, social, and environmental factors. Finally, the discussion with local actors facilitates the detection of impacts caused by public policies, and the identification of alternatives and opportunities at the local level. This process involved four main steps:

- Identifying participants: 5 to 10 key leaders and knowledgeable informants were invited to participate. Selection was purposive. Four exercises were conducted to create the model of decline for the RRD. Information was triangulated.
- Defining decline/carrying capacity: Participants defined decline or a description of the situation in the community.
- Modeling decline: Participants define the causes, effects, and feedbacks related to decline in the community and draw the model. Outcomes from all groups (four) were processed with the software VENSIM (Ventana Systems, 2007) to create a unified model.
- Results: The resulting model was analyzed using open ended questions about the ways in which the community react and adapt to change, cooperative actions and obstacles to cooperate, the role of planning, and the role of public policies.

Network Mapping: This tool is qualitative and based on Pross (1986), Schiffer (2007), and Wasserman and Faust (1994). The analysis of social networks recognizes the dynamics of the social structure in rural and urban dimensions. Networks are seen as the "*capillary communicative structure*" of communities (Foth, 2006). The goal with this tool was twofold, first to find out how networks influence the problem of decline, and second, to acquire a perception of the social structure in a rural region in decline. Interviews with knowledgeable actors and leaders in specific networks were conducted in order to identify and map key networks operating in the RRD, to identify key actors and their level of influence in each network, to characterize the network dynamics, and to identify how actors are linked with one another and which are the flows of resources among them.

This method followed three general stages. In the first stage, individual actors were interviewed to collect information and data about industrial and social networks in which they were participating. In the second stage, hand-drawn maps were created with the interviewees (e.g. Figure 4.1). Finally, the hand-drawn maps were translated into computer-generated maps using the software Netdraw (Borgatti, 2002) and further production of figures (e.g. Figure 4.2).

Social networks are configured basically by nodes and edges. Nodes in a network are actors (individuals or organizations). Size of nodes in all network figures represents the actors' importance in the network from the interviewee's perspective and based on a scale from one to five. Social relations in networks are represented by the edges (ties). Ties facilitate the flow of diverse resources (capitals). The interviewees were asked to identify five specific types of resources: financial resources (economic capital), physical resources (build capital, natural capital), information and support (social capital), human resources (human capital), and political institutional resources (political capital). Resources are represented in each figure by colors and direction of flows by arrows. More than one resource can flow between two nodes (e.g. Figure 4.1) however, to simplify the computer based figures, only one resource flowing between two actors is shown (e.g. Figure 4.2).

Figure 4.1: The Hand-Drawn Map
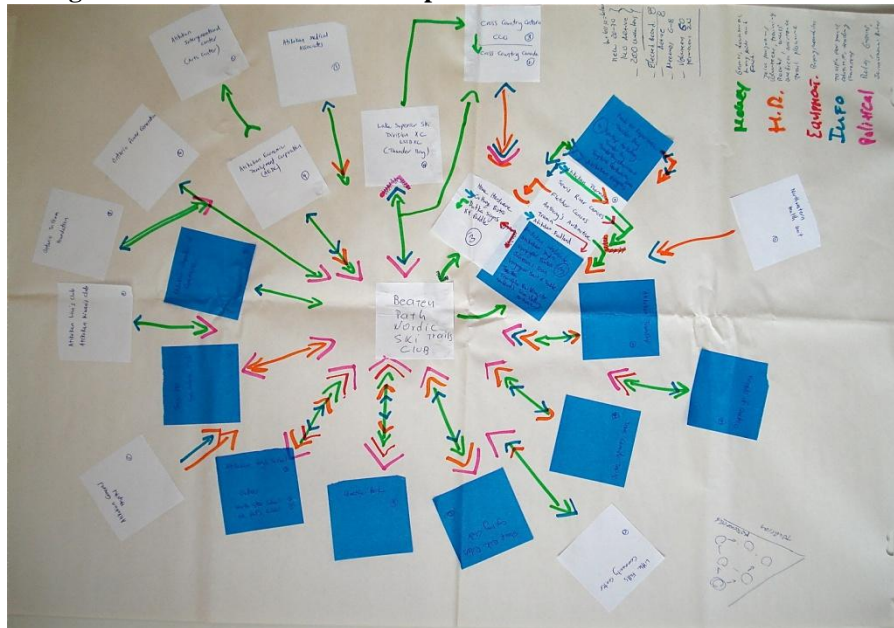
The hand-drawn map facilitates the identification and collection of information about actors participating in the network, their roles, flows of resources, and power. Source: Interviews with members of the Ski Club in Atikokan (Summer 2008).

Figure 4.2. The Computer Based Figure
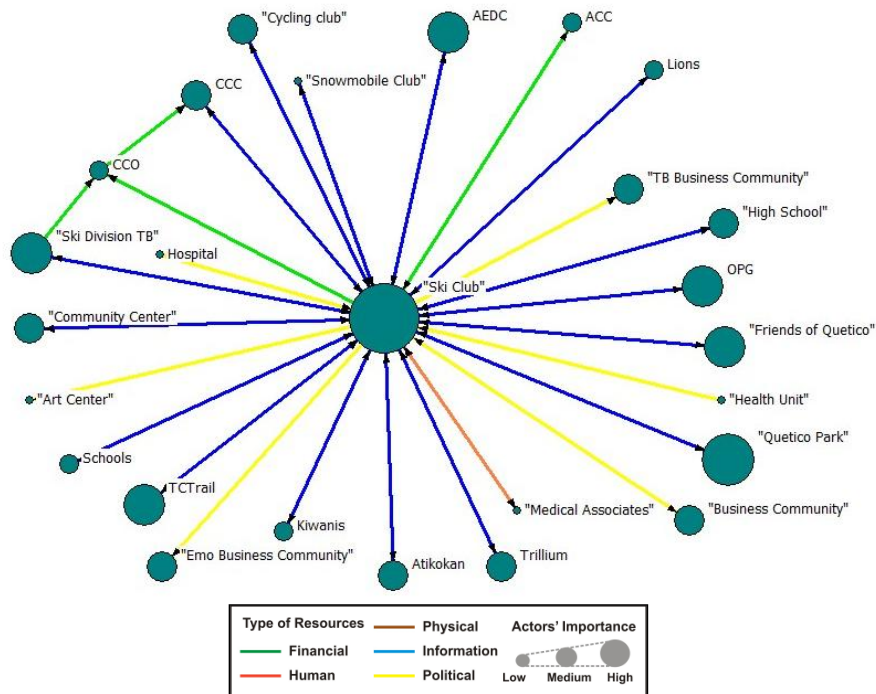
This computer based figure offers a stylized representation of the same network as in Figure 4.1. Planners can use network maps to track down specific social and industrial networks, combinations of resources and capitals, role of networks in the community, changes in the social structure etc. Source: Interviews with members of the Ski Club in Atikokan (Summer 2008).

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Two types of networks were mapped. The first type is organizational networks (e.g. Figure 4.2), which are also called "ego-networks" because these are a representations of links developed by one central actor (i.e the organization). The second type is industrial networks (e.g. Figure 5.2), which are more complex networks involving different interacting actors linked by the flows of various resources. Three central industrial networks in the region were illustrated: forestry, agriculture and tourism. The most important social networks, from the perspective of the interviewees, were analyzed and mapped. Appendix 3 includes pictures of hand drawn maps of a sample of the studied industrial and social networks.

Methodological Issues

Five common criticisms about the use of case study approach are mentioned in the literature (Dattilio, 2006; Fischler, 2000; Flyvbjerg, 2001; Francis, 1999; Yin, 1994). The first concern is lack of objectivity. General, context-independent knowledge is considered more valuable than practical (context-dependent) knowledge. Second, lack of representativeness arises because an individual case does not allow for generalizations. Third, limited applicability makes case study work most useful at the first stages of the research process (e.g. to build hypothesis). Fourth, research bias is possible because a case study has the tendency to confirm the researcher's preconceived notions. Finally, case studies do not facilitate to succinctly present results and general propositions and theories. Flyvbjerg (2001, pp. 66-86) revises these criticisms, considering them as "misunderstandings", and suggests the following five counter-arguments:

1. Specific, context-dependent, knowledge is more valuable than predictive theories.
2. It is possible to generalize on the basis of one case and the case study can also be used as alternative to other methods.
3. The case study is not only useful for both generating and testing of hypotheses, but also for other research activities.
4. The case study contains no higher levels of bias towards researcher's preconceived notions than other methodologies. On the contrary, the literature reports that the case study contains a greater bias towards falsification of preconceived notions than towards verification.
5. Difficulties in summarizing case studies are related more often to the problems being studied than to the case study as a research method.

Practical limitations identified in this research included seasonal constrains, distance, and difficulties setting up interviews. Seasonal constrains posed a challenge because the field work was conducted in the summer, which is a busy time for farmers and tourism entrepreneurs, which limited their participation. This drawback was addressed by contacting the potential interviewees early and giving them flexibility to decide time and place. To cover a complete region is demanding in terms of financial resources and time to cover simultaneously all towns and communities. To address this issue a detailed schedule was developed to cover one town at a time. Conducting the interviews sometimes

required considerable sensitivity and diplomacy. Many of the interviewees were directly or indirectly affected by the process of decline, exclusion or conflicts. As a result, while taking part in the interview, several participants experienced negative feelings (i.e., frustration, sadness). This drawback was addressed by referring to this potential problem in the information letter. When facing this situation I also asked if they wanted to stop the interview. In most cases, respondents decided to continue the interview; the reason for this is that people were interested in sharing their personal and professional experiences and challenges.

4.5 Conclusions

The research is exploratory, qualitative in nature and guided by interpretivist philosophy. To develop this research a case study methodology was applied. Multiple tools were selected to analyze the complex nature of decline and included a literature and documental review to develop the conceptual framework designed to guide this research, intensive interviews, focus groups, network mapping, and group model building methods. Table 4.1 presents summary information that links each research objective with the methods used to generate the results.

Table 4.1. Links Between Research Methods and Research Objectives

Research Objective	Research Method
Construction of a multidimensional interpretation of decline in a rural region and the identification of planning elements to improve community planning in a declining context.	Literature review, semi-structured interviews, focus groups, network mapping, and group model building.
Development and application of a conceptual framework to guide research and interpret outcomes about the problem of decline in rural regions.	Literature review.
Characterization and analysis of the role of conflicts, networks and capitals in the process of decline of resource based communities.	Semi-structured interviews focus groups, network mapping and group model building.
Identification and evaluation of existing planning approaches to decline, local responses, initiatives and forms of adaptation to decline in the RRD.	Literature review, semi-structured interviews, and focus groups.
Identification of policy and planning implications.	Literature review, semi-structured interviews, focus groups, and group model building.

Chapter 5. Decline in the Rainy River District: A Multidimensional Reading

5.1 Introduction

The central purpose of this chapter is to describe the structural nature of decline. Growth and decline rest on a complex web of interconnected networks in various dimensions of society, permanently emerging, collapsing or merging into new forms. Through this web of networks, flow diverse types of capitals. This mechanism is being fuelled by diverse forms of conflicts caused by internal or external forces of change. As a result, this chapter describes the Region as a web of networks upon which functioning and sustainability/decline will depend on the connectivity of its inhabitants.

In principle, all networks described in this Chapter are social networks. Sustainability thinking and experience emphasize the crucial role of interrelationships and mutual influences among the social, economic, environmental and political dimensions (Gibson, 2007). Although for clarity these networks are described separately, the description identifies diverse links and influences among dimensions. In all dimensions, networks, capitals and conflicts are analyzed as follows: 1) Networks are analyzed following the principles of structure and function (Wasserman & Faust, 1994); 2) Conflicts are described focusing on actors, process and issues (Lederach, 1992); and 3) Types of capital are described following their specific features (Lin, 2007).

A multidimensional approach to decline helps the researcher to understand the mechanism in which networks, capitals and conflicts interact and influence decline, and to identify emergent forces of change that can, positively or negatively, transform the social structure and reorient the process of development in the RRD. This chapter includes two parts. The first part describes networks, capitals and conflicts existing in the RRD in each dimension of the sustainability paradigm along with their interconnections. Based on this description, the second part describes three key processes for territorial development in the RRD: network decay, places as networks and network mechanisms.

5.2 The Social dimension: Social Networks, Social Capital, and Conflicts.

5.2.1 Social Networks

As in other rural regions, social networks in the RRD are diverse (Cote & Erickson, 2008; Wellman & Wortley, 1990). People in the RRD organize themselves through a dense pattern of networks that facilitate their connectivity and the flow of capitals, influence and power. These forms of self-organization in the region are governed through socio-cultural values and are also a way to

adapt to increasingly difficult circumstances caused by the current crisis. This research identified three types of social networks in the RRD: decaying, emerging and amalgamating.

Decaying networks are affected by out migration, the economic situation, and changes in intergenerational culture (section 5.6.2 further explores this issue). Typically, these networks are ageing and shrinking, but still concentrate the political and economic power in the region as their membership usually includes actors with relatively high social and economic power. For example clubs, churches and societies (e.g. Kiwanis Club, the Canadian Legion, and the Salvation Army) are traditional networks facing decline as a result of shrinking donations and membership but still count among their membership with mayors, councillors, business people and other local leaders. Interviews with different clubs and societies across the region reflected this situation:

> We used to have 60 members at one time, now we have 23, but only 10 are active. They are getting old and young people don't want to join. Other organizations are not doing well; the Moose Lodge is going to close too. We are not getting the membership and there are no young people to get the commitment [A.KC1].

> The old clubs have more political power; we [our club] don't really have power to influence the municipal council. The town respect us but we are not doing work to link with them...However, as population ages you will see that power switch to those younger organizations [A.SC1].

Amalgamating networks are groups of people that move to a new organization or are absorbed by a pre-existing organizational form. In this case, the closure of schools, churches, and clubs in the region makes their members move to similar organizations within or outside the region. For example, since the 1980s the school network started a process of amalgamation, as a result, only in Fort Frances, the number of schools dropped from 8 to 4. Parent associations and students are being absorbed by bigger schools in other neighbourhoods. In this process, fewer teachers are required and school boards have been also amalgamated (catholic and public) and re-located to Fort Frances (Behan, 2008). In this type of network the members become even closer to each other to give support and share resources, which increase the links among the membership. Principals of four schools in the region and members of their parent associations coincided in saying that the result is a denser network (see section 2.4.1), although shrinking. A member of a school parent association describes this situation:

> Our organization is getting smaller because families are living, we have now fewer kids in the school, and the advisory council is dwindling. Now we have meetings every month and it is open to all parents, we also have the kitchen and that is a way to help. Many parents are on the edge and they don't know where they are going to be in the fall [FF.CS1].

Finally, emerging networks are new forms of self-organization of people. These networks are important for regions in decline as they represent new institutional forms, and are a strategic

ingredient toward sustainability (Knox & Mayer, 2009). There are several networks emerging in the RRD such as the Tribal Council and Development Fund in Fort Frances, the Charleston Recreation Area in Atikokan, and the Atikokan Ski Club. The latter (Figure 5.1), has three particular features.

Figure 5.1. Atikokan Ski Club
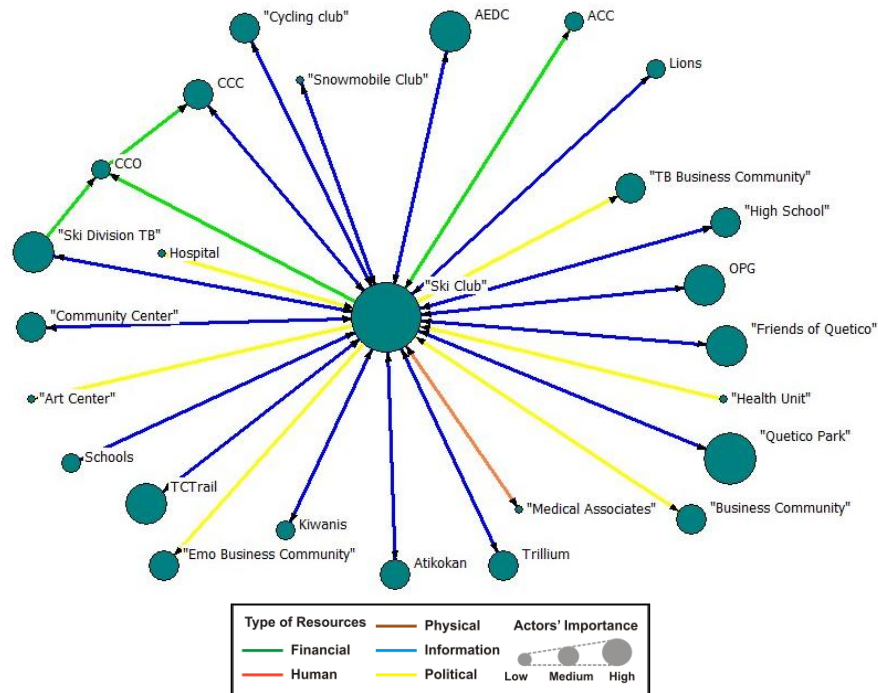
This figure shows the nodes (actors) in the network located in and outside the RRD, the importance of actors in the network (size of nodes) weak and strong ties, and predominant resources flowing through the network and between nodes (capitals). Source: Interviews with members of the Atikokan Ski Club.

First, this network is relatively autonomous, although it has received some grants, funding flows from its numerous supporters and members. The Ski Club is a dense network; however, its structure is very open and has connections with diverse businesses and organizations across and outside the region. Its weak links (see Section 2.4.1) attract new people into the network, connect them to the region, and both diffuse and improve the image of Atikokan and the region as a whole. Third, this network does not have a physical space in town, which helps it to avoid the use of resources required to maintain physical infrastructure. Finally, cultural diversity of membership is noticeable, with a predominant participation of young people as leaders and members. A leader in this club describes this network as follows:

> People in our network are young, 35-40 years old. We trust each other. Our club has a lot of creative people, visionaries. We are going stronger. This year we grew again. We have 30 new members. We organize two important events, and we advertise in Minnesota and Wisconsin, we try to bring people from outside, and let them enjoy our trails. We got the Trans Canada Trail and we hope to increase the awareness about our community. We are also promoting the park as a winter activity [A.SC1].

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5.2.2 Social Capital

This section describes three interconnected forms of social capital: social, human, and institutional capitals.

5.2.2.1 Social Capital is the social fabric or glue that links actors of a given locality to one another and to the place itself (Putnam, 2000). Social capital adopts many forms such as social networks, cultural values, levels of trust, and collective action. These all are strategic elements for the economic vitality and social prosperity in any region (Cocklin & Alston, 2003). To describe social capital in the RRD, this section adopts two elements for classification proposed in Granoveter (1973), Putnam (2000), and Woolcock (1998): 1) As a relational product and organizational forms, social capital can be grouped into formal and informal institutions; 2) as a type of relationships social capital can be grouped into bonding, and bridging.

Formal Institutions in the RRD are represented by three groups. The first group includes institutions of all levels of government such as Fednor, Omafra, MMAH, Quetico Park, and local governments (municipalities and reserves). The second group includes private institutions such as tourism operators, mills, and farms. The third group includes non-governmental and not for profit organizations such as clubs, churches, Rainy Lake Conservancy and the Federation of Agriculture. These examples have sets of rules accepted as official, that regulate and facilitate relationships among people, enhance trust and connectivity, and mobilize resources (North, 1990).

Informal Institutions in the RRD can be grouped in two types, complementary and accommodating (Helmke & Levitsky, 2004). Complementary informal institutions are sets of rules created as a result of incompletion of formal institutions. Paternalism and "coffee councils" (see section 7.2) are examples of this form emerging as a result of the weak forms of public participation in planning and public decision making. Accommodating informal institutions helps to reconcile actors' interests with the formal rules existing or imposed to the municipality. For example, informal agreements based on trust, between municipal offices and private individuals (e.g. for changes in zoning by-laws), are established as a result of the long periods of time necessary to update the plans, and also as a result of new regulations affecting traditional formal institutions. An example of the latter is explained by a municipal chief executive officer:

> We have a wonderful recreation group and we did raffles, and bingos, but with the new regulations about gaming we cannot have a bingo anymore, we cannot sell a quilt. So now for the Women's Institute selling a quilt is illegal. The council decide not to fight that, accepted the new rule and you know ...we prefer to look the other way [B. MO2].

Informal institutions then, work as a "second best" strategy for actors who prefer, but cannot achieve, a formal institutional solution (Johnson, 2002), or when they are less costly or more effective than following formal regulations (Mershon, 1994) to mobilize or access social capital. Informal institutions are also highly resistant to change, producing positive and negative effects. For example, fundraising is an informal institution in the RRD helping people in moments of crisis. Similarly, the lack of cooperation between towns and reserves, weak public participation in planning processes, and denying conflicts are also informal institutions considered by the interviewees as deterrents to the possibility of developing common initiatives. A municipal officer describes an example:

> Because that retention center is for First Nations juveniles, people were saying: "put it on the reserve, don't put it in our town." We [the town] suggested to the Ministry to have an open house, which alleviated a lot of concerns. The town did not participate because we did not want to give the impression that that was a town's project [FF. M3].

These forms of informal institutions are sets of unwritten rules and forms of governance enforced outside officially sanctioned channels with deep historical roots that affect communities' capacity to adapt to change and properly respond to decline.

Bonding Social Capital is the strong ties among actors (individuals and organizations) within the community (see Section 2.4.1). Social networks in the RRD, as in other rural areas are usually dense and enclosed (e.g. see Figure 5.1) as a result of many strong bonding ties arising from their closeness and cultural similarity (Cote & Erickson, 2008; Stayner, 2003; Wellman & Wortley, 1990).

These features work as a two sided sword (Coleman, 1988; Granoveter, 1973). First, strong bonds facilitate the flow of resources (e.g. financial, physical, and human) which makes it possible for people in the RRD to support each other in moments of crisis through diverse activities facilitated by various social networks such as public auctions, Pow Wows, fairs, raffles, fish tournaments, food selling, and donations. These forms of support work to combine and exchange capitals. For example a fishing tournament facilitates the transformation of natural and human capital into financial capital for local development. As a result, bonding social capital function as a self organizing property in each town and is regulated primarily on the basis of community and cultural values. These benefit the social dimension by improving the level of well being, sense of belonging and social cohesiveness. This recirculation of capitals also benefits the local economy by enhancing local businesses and attracting participants, financial resources and tourists to the RRD. Finally, it benefits the environment as communities increase environmental awareness and levels of protection of natural endowments.

Strong bonding ties and dense networks are also present in First Nations communities. Strong bonds that hold these communities together are facilitating their recovery after decades of structural violence, government neglect and dispossession of the land. Also, Chiefs and other First Nations leaders manifested concerns related to perceptions of exclusion, racism, and difficulties in finding employment, resulting from the same feature of social capital existing in towns across the RRD. This is the other side of strong bonds in dense and enclosed networks, which has evolved into high levels of intolerance among communities in the RRD and also towards outsiders. Although this is a characteristic common in rural regions (Cote & Erickson, 2008) it considerably affects the attraction and permanence of new residents. Local economic development officers share these concerns:

> People here see immigrants different, they are not welcome. In the city immigrants are part of the city, here they are strangers, they are different, and people look at them as if they were to steal a job, [even though] we have room for a lot of people [E.DC1].

> The social hierarchy in this region is changing. However, you will find in this town many cliques, such as the old boys club, the mill clique, the downtown business clique, and is very hard for an outsider to break in those cliques, historically those were very rigid cliques, they are now changing because the mill is declining in economic importance, and you have the new types of businesses, and new people coming along, so there are new emerging cliques [FF.DC2].

Bridging or Linking Social Capital are weak links between communities or with actors outside the region (Granoveter, 1973; Onyx & Bullen, 2000). Three groups of positive effects were identified in the RRD: First, weak ties facilitated the attraction of new businesses and people from outside the region (e.g. canoe and apparel manufacturing in Atikokan), and the creation of joint ventures within the region between aboriginal and non aboriginal people (e.g. two enterprises for value added manufacturing). Second, the active role of Futures Development Corporations and other formal institutions creating new contacts, searching for funding opportunities etc., helps to attract new families, tourists and also experienced and well-connected people working in government positions, health and school systems. Third, the growing awareness of the importance of the ecological subsystem promoted by NGOs such as Quetico Foundation, Rainy Lake conservancy, and Rainy River Reserve Watershed Program attracts people from different communities and sectors to participate in these activities.

There are also obstacles to efficiently capturing the benefits of weak ties. Weak links among communities and with higher levels of the social hierarchy (see Table 2) need to be managed and oriented to obtain desired outcomes (Granoveter, 1973). That is an ability that in the opinion of members of local chambers of commerce needs to be reinforced in the region:

> They [weak links] are not being used at their full potential. And that is because the goals are not clear. We have links but we don't know for what can be used [A. CC1].

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According to interviews with local councillors, municipal officers, school principals, and members of social organizations, contributing factors to decline of social capital include population decline, lack of motivation, lack of public transportation, distances, and time constrains. Out migration is affecting social capital in four ways. First, people leaving are usually the best connected and with higher levels of skills, which weakens the stocks of social and human capital. Second, a shrinking tax base affects the capacity to invest in the improvement of public programs to enhance social capital. Third, closing and shrinking organizations cease the activities that facilitate creating new links and initiatives to improve towns and put in place new economic initiatives. Finally, there is a limited level of cooperation and coordination of activities among organizations and communities in the region. A local economic development leader reflects on this problem:

> The volunteer group is the gene pool, they are the successful people, they are the people with experience, they know about the world, they know about business, they are the people you want, and we are losing them. We have to get them back and go regionally with them...[E.DC1].

The above elements illustrate the role of social capital in the process of decline, how forms of social capital are interconnected and how various elements influence positively and negatively the availability and impacts of this capital. In general, this analysis confirms four relevant points: 1) Social capital is not always positive, and there are processes that add value or undermine its availability and impacts; 2) Social capital is connected and can be combined with other forms of capitals, necessary for collective action; 3) Agency affects and is affected by the available levels of social capital; and 4) There is a need to invest in social capital available in the region to enhance its general performance (Black & Hughes, 2001; Cheshire & Lawrence, 2003).

5.2.2.2 Human Capital comprises the knowledge and skills embodied in individuals (Lin, 2007). It therefore includes the people in the RRD, their physical and mental capacities, their history, knowledge, skills and experiences. Furthermore, it facilitates the permanent construction of a community. This capacity is exercised through leadership, social interaction, social learning, problem solving, and in general, through the participation of diverse actors in the local social and economic life. As a result, human capital is a key ingredient in regional adaptability and sustainability. It plays a twofold role in a region in decline. First, it is essential to create new initiatives and coping with the process of decline. Second, it can facilitate out migration because individuals who are better prepared and with higher skills will easily find jobs elsewhere.

In the RRD, closure of industries, loss of population, and amalgamation are three central factors negatively affecting the stock of human capital. Closure of industries affects the structure of families as usually one of the parents must start commuting to work in another town. Amalgamation

of institutions and relocation of their centers is steadily concentrating human capital in Fort Frances, with a negative effect on other parts of the region. Finally, population decline affects the stock of human capital as people, particularly young adults, leave the RRD to find jobs and new opportunities elsewhere. This way the RRD is exporting its most valuable resource: young, skilled, well-educated people. A school principal explains this problem:

> The future employment for many of those kids is not in Atikokan, so you face a systematic drain brain, successful students will contribute to Ontario or Manitoba, but not to Atikokan. Non successful students usually had employment in the forestry industry, after grade 12 they could operate in the bush and their future was in Atikokan. But now the shrinking labour base is disrupting this balance, so many social issues are arising because they lack the qualifications to get a job elsewhere but at the same time they won't have the opportunities here anymore [A.CS1].

Interviewed young adults offered diverse reasons either to stay or to leave their communities. Table 5.1 summarizes these reasons.

Table 5.1 Should I Stay or Should I Go? Arguments Suggested by Young Adults

Reasons to Leave	Reasons to Stay
a) job offer in the area of destination with attractive salaries, e.g. apprenticeships in mining;	a) employment factors are again central, a job within the region close to their vocation and skills is a definitive factor;
b) a perception of a wider range of employment opportunities and possibilities outside the region;	b) networks of family, friends and relatives were cited as influencing the decisions of young people to either remain, come back or move into the region;
c) a perception of a limited and shrinking employment opportunities within the region;	c) rural, northern lifestyle and wilderness; small communities; a rural "flavour", with a slower pace of life, close to natural amenities and favourable conditions to race a family;
d) related factors such as cost of living and wages:	
e) limited availability of educational opportunities to advance their careers;	d) strong roots with the land, natural environment, family and ethnic networks is a key element among young adults in First Nations communities.
f) perception of the region as isolated and contrasted with metropolitan centers that in turn are viewed as culturally richer and with higher levels of well being;	*I hope they come back [my daughters], but I hope they will come back because they want to, and they want to be here, so they have a choice, and that is one of the greatest things, that they have a choice [FN R2].*
g) some lifestyle factors such as recreational and cultural opportunities were also mentioned.	

Reasons to leave were frequently more varied than reasons to stay. Source: Information collected through interviews with young adults.

In addition, there are some forms of human capital immigrating into the region, e.g. new employees of government institutions and industries, retired people and people with disabilities who want a rural place with attractive amenities, affordable housing and good health services. However, this number of immigrants is not enough to balance the process of shrinking population in towns. Nevertheless, as described in section 3.5, the RRD has an important pool of human capital that will

play a definitive role in the RRD's future - the presence of First Nations with a younger and growing population in the region. This is a key factor, as the exposure to ethnic and other differences is often associated with greater social and economic adaptability (Stayner, 2003).

The creation and renewal of human capital in the region is generated by a range of educational institutions that include, schools (Catholic and public boards working at a regional level), the Confederation College satellite campus in Fort Frances, and the Seven Generations Institute. These institutions are not only creating the human capital, but also promoting a culture of tolerance among the communities in the RRD which play an important role in the sustainability of the region. Education is a key service and a tool to retain and attract new residents and families to refresh communities' assets; also it is a key tool to progressively increase skills levels and ensure that the process of development favours all social groups. Paradoxically, good schools in the region are also nurturing aspirations for further education and opportunities that will eventually incentivise out migration of young people.

5.2.2.3 Institutional Capital in the RRD, is the group of public and private services necessary for the survival and well being of the rural community. With a shrinking population in towns, the RRD has witnessed noticeable closures such as rail stations in the RRD, the Greyhound bus service, the rapid decline of downtown retail, and the closure of schools, churches, restaurants, and hotels throughout the region. Nevertheless, the region has managed to retain a number of other important services that include courthouse facilities in Fort Frances, post offices, hotels and banks in the biggest towns, police headquarters, and also a modern web of medical services located in Atikokan, Fort Frances, Emo, and Rainy River. Therefore, communities in the RRD still have an important pool of institutional capital, in which remoteness has played an unexpected positive role, since they could never keep this level of institutional capital if they were closer to a larger centre like Thunder Bay or Winnipeg.

5.2.3 Social Conflicts

Diverse forms of social conflicts are present in the RRD, and they all consume important amounts of actors' energy and resources, drain trust, hinder connectivity among social groups and permanently challenge new initiatives by obstructing new forms of collective action. In a declining process, scarcity of opportunities and resources also stimulate the emergence of conflicts within communities, as described by a participant in a focus group: "*The community begins feeding on itself and perceives enemies within*" (FG 4).

The most important social conflict currently affecting the RRD is the conflict between Towns and Reserves, which has roots in history and political economy.

Historical roots: As described in section 3.2, starting the 20th century, industrialization, pressure for land and polices designed by upper levels of government for the control of the territory, led to the creation of reserves, the confinement of First Nations young people in residential schools, and the erosion of early fruitful cooperative institutions. In turn, new institutions of distrust were imposed, which today still, heavily affect the process of rural development.

Political Economy roots: These are linked to land property rights in this territory. Since 2003, as part of a land settlement area agreement with the federal government concerning 46,249 ac., since 2003 Rainy River First Nations Reserve has purchased 3,171 acres of land adjacent to the Rainy River, and are in the process of registration of surveys for 13,702 additional acres. These land claims are closely tied to issues of sovereignty *"...the first step in regaining lost sovereignty is reclaiming traditional lands"* (Frantz, 1998, p. 520)*,* but are also worrisome for local politicians who consider this process only from the angle of potential diminishment of the tax base, as these purchases will be excluded from land taxation.

This intercommunity conflict emerges, then, from the interplay of various socio- economic, historical, and political processes. It does not simply follow racial or class forms, nor can it be completely explained by market or other unidimensional approaches. Strong bonds and dense networks explain only part of the challenge to address this type of conflict (Arrow, 1998). Different levels of income and education also influence existing intercommunity conflicts to differing extents (Burgess, Wilson, & Lupton, 2005). School principals, councillors, First Nations leaders, and business people described in the interviews how social conflict is affecting the level of academic achievement of students, subsequent socio-economic outcomes among population, and limitations in the patterns of urban residential integration, all of them directly and negatively affecting the process of collective action to cope with decline. Other authors have provided further evidence of similar effects (Arrow, 1998; Burgess, Wilson, & Lupton, 2005). The result is two types of communities living parallel lives in the same region, as explained by the director of Seven Generations Institute:

> In our region our communities are not going to leave, this is our home, but the European people, they are not going anywhere either, this is also home for them, so we are living together, we are like two ships navigating the same Rainy River, but separated" [FN.R4].

Although cultural values differ considerably, there are common interests, manifested by mayors and chiefs, such as the need to improve social and economic services, combine resources, to advance towards a sustainable development for the region, and to recognize the natural environment

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and people as the most important assets for the future. Common interests motivate leaders from towns and reserves to work together, as stated by one First Nations officer working in economic development:

> We have to work together and cooperate among all communities in the region. Our resources are limited and we are in the same boat, so we need to do the same planning, maybe I am dreaming for now but there is no choice [CFN.ED1].

These common elements prompt the realization that both communities, Towns and Reservations, need each other to advance the process of regional development. Important meetings have been held, such as two Community Summits in 2005 and 2007, to advance this process of reconciliation. As a result, there are cooperative initiatives in place in the areas of environmental protection, education and economic development. A local newspaper editor describes this process:

> …we as a region have to take responsibility for our own destiny. We have to be the advocates and the champions of it. We have to demonstrate that we have the ability and the passion to get things happening... There is a huge opportunity in working together [FF NP1].

5.3 The Economic Dimension

5.3.1 Commodity Networks

Increasingly influenced by globalizing trends (see section 2.3), three central commodity networks are present in the RRD, which together constitute the economic base of the Region: Forestry, Agriculture and Tourism. This section describes central features of these networks and some common elements, and succinctly describes the current overlaps of commodity cycles.

Forestry Network: Four types of forestry industries are the major generator of employment and wealth for the region: small value added manufacturing, lumber mills, paper and oriented strand board. The latter are the most influential in the regional economy and generate the highest amount of employment and economic revenues for Towns in comparison with agriculture and tourism (see appendix 1). This group is also the most affected as a result of the industrial restructuring process and current crisis. Smaller enterprises are linked to bigger mills through sub-contracting, and some of them are exporting value-added specialized goods to niche markets, an activity that represents one of the best windows of opportunity for this sector. Three enterprises remain in the RRD, the largest is the Abitibi-Bowater pulp and paper mill located in Fort Frances, followed by the oriented strand board Aynsworth mill in Barwick and a producer of specialty forest products - Manitou Forest Products in Rainy River reserve. Aynsworth has been facing financial difficulties since 2008 and

Abitibi-Bowater filed for bankruptcy protection in April 2009. The Abitibi-Bowater mill introduced a new quality paper section and is building a new alternative source of energy based on biomass.

The impact of decaying networks in the process of rural development can be observed in the case of Atikokan, where the 2008 closure of the two existing companies, the Fibratech manufacturing facility and Atikokan Forest Products Ltd., signified the disappearance of the local forestry network, with the subsequent elimination of the accompanying revenues and jobs for this municipality. The reconstruction of this network (see Figure 5.2) illustrates three important structural losses:

Figure 5.2 Atikokan Forestry Network
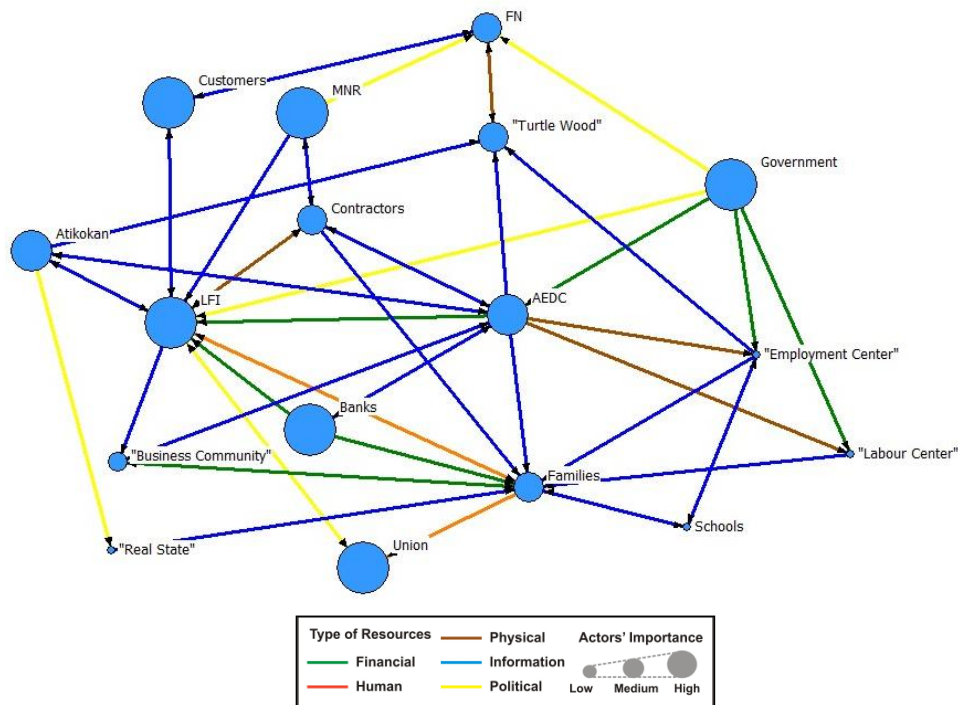
This figure illustrates the importance of the Local Forestry Network (LFI) and the structural losses as a result of its closure. Actors in this network are leaving the region, and the various interchanges of capitals among them have ceased to flow. Source: Information collected through interviews with local economic development officers and former forestry operators.

First, the social structure that functions and exists through the network is the principal loss as the actors (nodes) leave the region or move to other towns. A former contractor explains this situation: "*Most of the guys are scattered all over the country right now. They're scrambling right now because most of them are out of [Employment Insurance]. It's pretty much dire straits for most of them*" (Smith, 2009).

Although actors remaining in town can move to other networks or put in place new initiatives, the experience, and knowledge that flowed through this network are lost. Second, diverse capitals mobilized through the network cease to flow and produce a cascade effect on the local economy. For example, as the financial capital stops flowing from the mills, connected services,

retail, donations, etc also stop receiving benefits from this economic activity. The aggregated effect is a decline in the stocks of diverse capitals in the community with the subsequent decline in the level of wellbeing. A mill manager complements this description:

> I agree that we need to redefine what we can do up here that can be sustainable in terms of traditional use of resources, what can we do that is different from what we have been traditionally done in the past [FF,M1].

Finally, the capital produced is also affected as the industrial infrastructure remains unused. A forestry contractor in Atikokan, one of the less mobile actors because his investments in equipment, explains this problem: *"I could sell my equipment and retire, but no one is buying anything because no one is working. [To sell] you might get 25-40 cents on the dollar. It's not really worth it."* (Smith, 2009). Real estate agencies in Atikokan and Fort Frances considered that this process, linked to unemployment and out-migration, is causing a low demand of housing, resulting in declining prices. From 2007-2008 prices of housing in Atikokan went down by 20% [A. RA1, FF.RA 2].

Other social groups have been also impacted. Managers and clients of working centers and social services officials agree that young and unmarried workers who don't own homes are the most mobile and are rapidly leaving the region to get new jobs in Alberta, or return to school to acquire new skills. Older and close-to-retirement workers tend to stay. Young and married workers cannot sell their houses easily, and have to commute to work, which interviewees considered contributes to declining wellbeing, increased stress, and intra-familiar conflicts. A social service officer describes this situation:

> The quality of life has diminished for unemployed because their family unit is disrupted, even though their income has gone up because they are earning more in Alberta, but they come back exhausted, cranky, and then you see alcohol and physical abuse [A. FG2].

Agricultural Network: As in forestry and tourism networks, the agricultural network described in Figure 5.3 is a dense and diverse network (see section 2.4) of participating actors, the majority of which are located in the region. The agricultural network is the second source of income and employment in the RRD and the sector predominantly concerns beef cattle (see Appendix 1). However there is an important variety of agricultural produce which includes elk, vegetables, honey, mushrooms, etc. Also, the emergence of new actors is evident, such as the regional abattoir, the farmers markets in Fort Frances, Atikokan and Rainy River, and new programs and initiatives such as the Green Box, which is promoting local food across the region. These new institutions spring from self organizing processes that increase connectivity among the actors in this network.

A leader of the Federation of Agriculture describes the agricultural network:

This network will keep going, I am worried that it is going to compress because probably then [in 20 years] will be less people to interact. It takes a lot of relationships to make a community to really work good, so this network as it is now is good, if you try to make it simple, intentionally or not, then you start to lose your relationships, and your options, and the sense of community, so we don't want to lose this network [B. FA 1].

Figure 5.3. The Agricultural Network
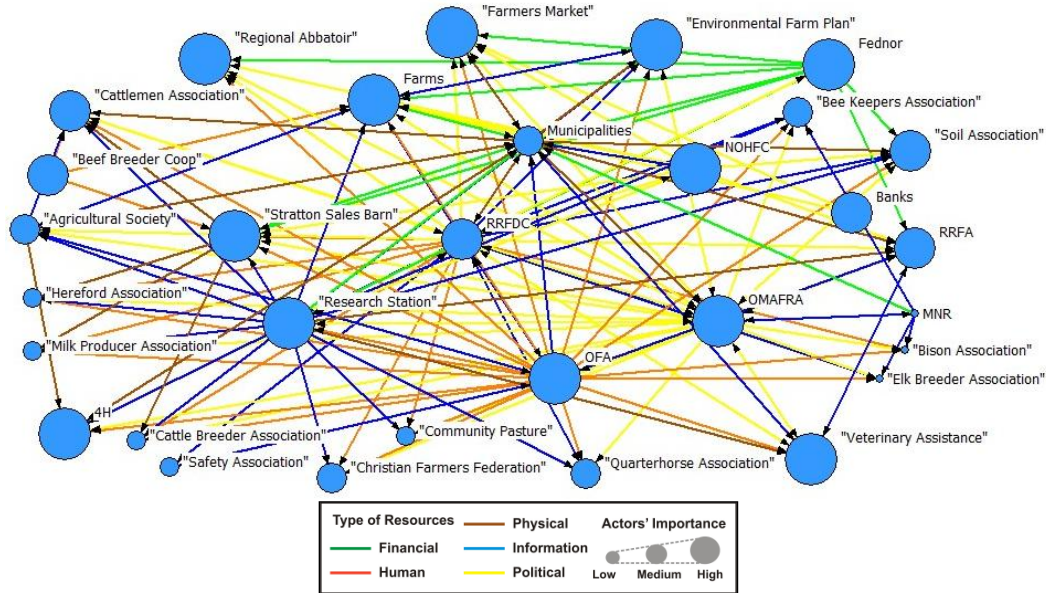
Compared to other networks in the area, this is the denser and more complex commodity network. Creation of new weak ties with external-to-the region actors can enhance local capacity to identify and promote new initiatives. Source: Information collected through interviews with farmers.

After forestry, the dominant form of land use in the RRD is beef and elk grazing. Structural changes in this network (Table 6) include ageing and declining number of operators (-9.7%), increasing size (26%) but declining number of farms (-7%), a higher use of technology, and a gradual switch to beef industry, which mirror national trends (Alasia, Bollman, Parkins, & Reimer, 2008). Several support services and input suppliers are linked to agriculture, and most are in the town of Emo.

In a traditional household strategy most farmers have second jobs (Rakodi, 1999). In the RRD this frequently combines, among others, agriculture and forestry activities with urban activities. On the farm, families have diverse agricultural production, while either one or both spouses can hold employment in hospitals, government facilities, local retail, or work as forestry operators. This combination allows them to balance efforts and investments by emphasising the more profitable activity while reducing risk and efforts in the less profitable activity. This strategy is a clear sign of adaptation to change and reflects the multifunctional character of agriculture in the RRD.

Furthermore, rising costs of production (e.g. higher costs of energy, oil, labour and transport), BSE, international competition, change in agriculture and trade policies, and the high Canadian dollar, are negatively affecting this network. Also, capital formation in this network tends to be cyclical, as a result of the instabilities of markets and trends in climate, which influence financial performance. Since the 1980s, all these factors have introduced significant changes in this network. Today, self organizing processes are reorganizing this network, leading to what appears to be an alternative process of rural development. Through interviews and focus groups I identified four dynamics, related to talented leaders, culture, technology and planning:

Talented leaders: Part of the process of decline is that old solutions (e.g. subsidies, government support, and protectionism) are rapidly shrinking, so leaders are searching for new answers to trends in demand, health, ethical and environmental concerns. For example a partnership between the mill in Fort Frances and the farmers to provide grass for the new biomass energy generator is illustrative of a trend to using alternative sources of energy production in the RRD.

Culture: The agricultural network is not only focused on production, but also on promoting new cultural initiatives. For example, the organization of cultural activities in a recovered barn located in Devlin has become a regional feature, and people travel across the RRD to attend concerts and celebrations. This fosters a sense of belonging, facilitates connectivity among actors, networks and sectors, and offers a cultural and recreational opportunity for local families.

Technology: The majority of farmers are actively introducing new technologies to protect the natural environment (e.g. solar powered drinking points for cattle to protect the streams and save water), are accessing new niche markets (value added agricultural products and organic beef products), are improving marketing (e.g. introducing wireless debit card services), and are using the internet and email (see Table 3.4).

Planning: based on a commonly shared vision, this network is following a strategic plan to revitalize the sector. Farmers are steadily working to reach important goals such as the new regional abattoir, the Eat Local campaign, the farmers' markets strategy, and value-added specialty products. Education is also part of the strategy to let know Towns and Reserves what local growers and producers have to offer. Indirectly, this campaign is also increasing internal knowledge about the Region, levels of trust, and enhancing regional markets for local agricultural produce.

Tourism Network: The tourism network is the least dense of all the analyzed networks and with the less diversity of nodes (Figure 5.4). In particular, this network lacks links with outside

tourism agencies and the transport industry (e.g. air companies). More important, there are no clear connections among tourist organizations working in the RRD such as the Northwestern Ontario Tourism Association -NOWATA, Mom's Way and Sunset Country. Despite the important natural endowments of the RRD, it was impossible to identify either a clear tourism strategy, or a common vision in this network.

Figure 5.4. Tourism Network in Atikokan
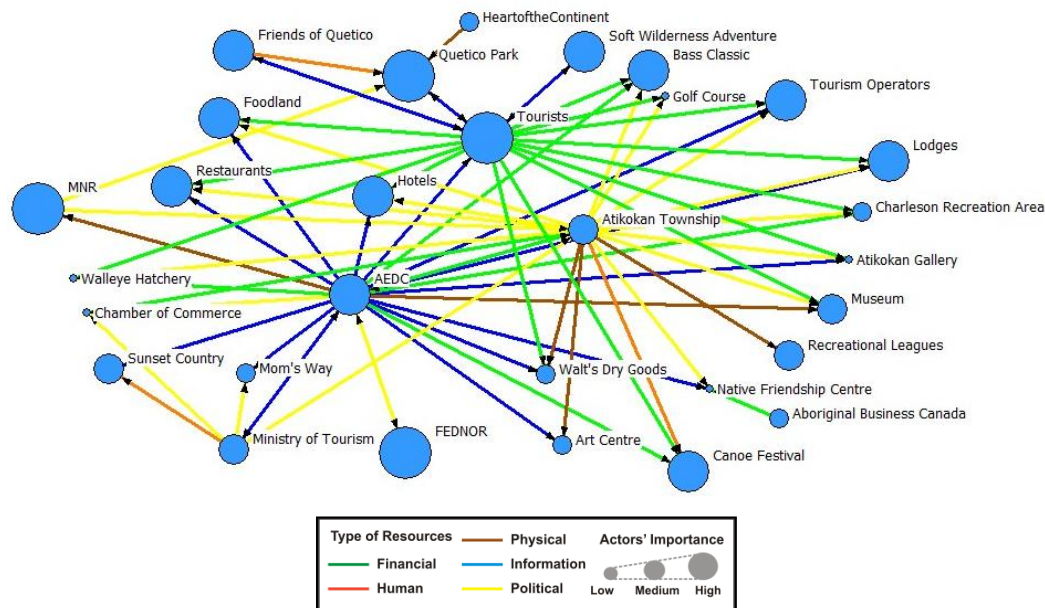
Tourism network in Atikokan reflect the connections, flows of resources and gaps among participants (e.g. limited links with air and other transport companies and external to the region actors). The role of Quetico Park is central in this network. Source: Information collected through interviews with local economic development officers and tourism operators.

As in the agricultural network, the majority of interviewed actors reported having a second, in some cases third, occupation in the family. This household strategy facilitates additional income and compensates for difficult times. This strategy also interconnects the three industrial networks in the region. These common ties also represent potential strategies to reinforce the networks and identify common grounds and initiatives for collective action.

Tourism is characterized by prevalence of low-paid and part-time or seasonal employment. It also provides self employment through existing hotels, bed-and-breakfast establishments, cabins, and transportation services for fishermen and hunters, as well as low-wage employment in hotels, retail stores, restaurants, and information services. These features motivate actors to approach tourism as an activity complementing the extraction of natural resources, which impedes recognition of tourism as an alternative for the region. A hotel manager, a leader in this network, elaborates on this problem:

I think tourism is behind the community as a whole, they benefit from it, but they don't realize how, they want to keep tourists out because they think the lake belongs to them, they don't realize that many of the businesses exist because of tourism, I call that the mill mentality, people work in the mill and they have cottages on the lakes, and they want to keep the environment for themselves [FF, LV2]

Nevertheless, there are some attempts to promote a different type of tourism for the RRD. Although disconnected from each other, these activities represent the foundations of a qualitatively new type of tourism in the region. Among others, the following activities were identified in the RRD:

- A group discussing cultural planning in Atikokan.
- A network of municipal museums, actively working in education and diffusion of regional history, values and culture.
- The Kay-Nah-Chi-Wah-Nung Historical Centre of Rainy River Reserve, educating people about the importance of First Nations heritage, culture and regional history and ecology.
- An active group of entrepreneurs looking for new perspectives and possibilities to enhance the tourism network in the region.
- An active group of park managers (Heart of the Continent Partnership, 2009).
- Diverse groups promoting fishing tournaments and sport tournaments (hockey and curling).

Ecotourism is a theme underpinning these initiatives that could harness them toward tourism development. However, various obstacles impede this process. The central one is the unclear political position from local councils regarding tourism. The second is lack of amenities for tourists, particularly on weekends, such as quality restaurants and theatres. The third is lack of tourism infrastructure in the region. Finally, there is no common vision for tourism. Several themes are now dispersed in disconnected slogans and strategies such as "*Atikokan - the canoe capital of Canada*", "*Mom's Way*", "*The Sunset Country*", etc. which provide a partial vision of available natural endowments and tourism opportunities. Two contrasting perceptions of tourism were consistently manifested by interviewees:

We have the land and the natural beauty, those are the windows of opportunity for tourism, how to use that includes man approaches, ecotourism, destination resorts, cottage community and probably getting more away from fishing and hunting. The obstacle is the necessary investment in infrastructure (FF, LV1).

We need something different, maybe tourism, but tourism in cooperation with industry, not ecotourism perspectives that are not compatible with industry [FF MM2].

Common Elements: A number of common elements shared by Forestry, agriculture and tourism networks, are evident in descriptions presented above. These common elements refer to planning, innovation, and governance, which are considered by diverse authors as key elements for a sustainable territorial development (Cooke & Morgan, 1994; Doern & Johnson, 2006; Huggins, 1997; Stark, 2005). The first element is the absence of a planning institution leading the process of regional development which inhibits planning towards sustainability and hinders planning of these networks, their efficiency, and potential contributions to territorial development. Although Future

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Development Corporations support various networks and municipalities with the creation of strategic plans, these activities are basically sectorial, do not recognize their social structure, do not involve all communities in the region, and are limited by absence of a regional vision that could pull people together in this work. The second element relates to innovation. Although innovation and diversification were frequently cited in the interviews, research is not considered as an strategic factor for regional renewal and sustainability. In practice, only the agricultural network has a research institution as part of its structure (the Emo Agricultural Station). The absence of links with universities and research centers is noticeable. Finally, multiple actors interacting in forestry, agriculture and tourism are part of a multilayer system governing these industrial networks. However, the significance of this governance system is not recognized and activities remain focused in the internal environment of local organizations comprising these networks, and following mainly sectorial policies or individual mandates. The aggregate result is a dynamic group of organizations that is only partially aware of the complexity of the existing web of networks and its potential for collective action. They are basically disconnected from each other and from the process of territorial development. For example, economic and community development are frequently seen as a separated processes, as illustrated by a local mayor:

> We have economic development and community development. Community development we are talking about the life style, wellness, and quality of life. Economic development is more about jobs, bringing more businesses to town…the economy is our biggest challenge, we are trying to diversify and bring in more businesses, and we need more money and more people [A. M 1].

Commodity Cycles: Following the central features of the industrial networks described above, it can be said that RRD is at the crossroads of two commodity cycles. On the one hand the commodity cycle of forestry in the RRD is ending, as affirmed by internal and external factors affecting forestry industry. These factors are pushing the forestry industry in two directions: One looks to adapt to the new complex environment by introducing value added manufacturing and specialty products, made by small enterprises and currently represented in the RRD by Manitou Forest Products, Turtle Inc, and Gingrich Wood Products. The second trend is the closure of big forestry industries and their relocation to regions with better availability of natural resources and favourable economic and political conditions. As a result, the forestry industry is slowly qualitatively being reoriented to respond to niche markets based on specialized value added production. Protective policies, subsides and municipal tax exemptions are only prolonging decline of corporate forestry and delaying the emergence of value added manufacturing in the region.

On the other hand, mining is apparently ready to re-start a new commodity cycle, after its crisis and relocation in the 1970s. Currently, there is a burgeoning activity by prospectors, scientists,

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and government institutions analyzing potential mining area. In part this is motivated by current rising prices of gold, and diamonds, of which are regarded as having potential in the RRD. However, mining activity is more volatile today than in the past. Today, mining industries face increasing foreign competition and more substitutes, which demand advanced technologies, lower cost of production and ability to rapidly relocate to environments with better availability of minerals and favourable economic and political conditions. At the same time, this industry is facing stricter environmental standards and more complex social requirements (Ciccantell & Bunker, 2005; Murshed, 2004). Altogether, these elements suggest that any new mining commodity cycle in the RRD will considerably differ from that in the past, and in particular from the former iron mines in Atikokan. Today, mining demands fewer employees, and more highly specialized workers to operate new technology, while environmental pressures and regulations from government, NGOs and First Nations communities will drive important changes in mining operations. Thus, mining will be characterized by greater use of technology, smaller employment, higher demand of specialized human capital, and much more localized areas of exploitation.

Considering these features, the nature of booms in mining and other commodity cycles in the region are changing; although the boom and bust cycles are not a matter of the past, local leaders and politicians must not expect that new booms will bring the same type of growth as before. These dynamics also reflect how sensitive commodity networks are to globalizing trends. Canada's share of world mineral and timber markets is transforming as a result of the increasing competitiveness of Australia, Scandinavia and different countries with developing economies; as McCann puts it, "*the Shield is now only one resource hinterland among many*" (1987, p. 458).

5.3.2 Economic Capital

Financial Capital: The RRD receives inflows of financial capital from two central sources. The first source is government institutions, which contribute to the creation, upgrading and maintenance of socio-economic, natural and political capitals. Among others, this source includes: a) Conditioned and unconditioned transfers as one of the central sources of income for municipalities; b) Social security transfers for individuals; c) Grants for economic development channelled by Future Development Corporations; and d) Funds for socio-economic development in reserves from the Ministry of Indian Affairs and other federal sources. The second important source is private initiatives based primarily on the export of natural resources (forestry and agriculture) and diverse services such as tourism operations and small businesses (see Appendix 1). Inflows of financial capital circulate through the various networks existing in the RRD (e.g. 5.3 and 5.4). Government grants, municipal

support, income from industrial networks and other forms of financial capital, are mobilized and re-circulate through the complex web of socio-economic networks. Hence, network decline is directly affecting the dynamics of recirculation of financial capital. Finally, not all new economic developments are positive for the Region. The attraction of big box retail (Wal Mart, Canadian Tire, and food chains) to Fort Frances is draining the small retail stores characteristic of Main Street in all the other communities in the RRD.

Built Capital: Built infrastructure is a form of capital that in the RRD includes a railroad, Highway 11 (or Yonge Street, which ends in Rainy River town), and a road network that connects the region to the east with Thunder Bay, to the West with Winnipeg, and to the south with USA; a recently connected broadband internet and cell-phone network; two airports (only one operating); up-to- date distribution systems network for energy and water; urban recreation infrastructure; dwellings and other residential and government buildings. A recurrent theme in the interviews was a concern about the decline of public services and deteriorating infrastructure as a result of population decline and tax base shrinkage. A local Chief Executive Officer explains this situation:

> From a municipal planning perspective, the most important action is to recognize decline. The best thing we can do is to stabilize and make the local and regional services more efficient, we are not going to have enough assessment base to pay for them, resources are not going to be there and they have been delivered down [FF.M4].

Towns are seeing a high percentage of housing in need of repair (Table 3.2), which reflects a combination of lower disposable income, layoffs, and out migration. The latest subdivision was built in Emo, a new cottage development is in progress in Atikokan, and there are sporadic building permits in rural areas of all municipalities. Otherwise built capital in towns is not growing, reflecting the continuous out-migration. Nevertheless, some reserves (e.g. Couchiching and Rainy River) exhibit a slow but steady growth in new housing, in line with population growth trends. Also, in these reserves some new and successful businesses have been implemented (e.g. a grocery and gas station, and a new golf course in Couchiching).

Spatially, four trends are visible. One, there are differences between Municipalities and Reserves in terms of infrastructure, social and economic services, business development, and quality of housing. These differences reflect lower levels of employment and median family income in First Nations communities, making it more difficult for them to invest in improvement of their built capital. As a result, the region remains visibly segregated. Second, is a slow process of concentration of socio-economic services and government facilities in Fort Frances which is linked to the process of decline in smaller towns. Third, communities are working to maintain the infrastructure and a positive

appearance of their towns through various strategies, such as buying and demolishing vacant housing in Atikokan, attempts of intensification in Fort Frances, beautification initiatives to improve main streets in Emo, and Atikokan, and marinas in Fort Frances, Emo, Barwick and Rainy River. Finally, real estate prices present a bimodal behaviour. On the one hand, the average price of houses in towns is declining, responding to population and economic decline. On the other hand, prices of properties located such as by Rainy Lake, are, according to local realtors, slightly increasing. A municipal Chief Building Officer describes the process of shrinkage:

> We don't try to renovate abandoned old homes. So far 60-70 homes have been demolished, so we are getting physically smaller. There are some new homes but they are not replacing in number the old homes turned down [A.M4].

5.3.3. Economic Conflicts

Among various economic conflicts affecting the RRD the *soft lumber dispute* stands out. This conflict can be traced back to the late 1800s (see Table 3). Today the dispute continues, although now focused on issues about subsidies (e.g. differences in stumpage and log extraction), export regulations and protective measures (Reed, 2001).

The forest sector, and by extension the RRD, has always relied on export trade, which has been affected by protectionist measures applied in the USA. Nevertheless, softwood lumber exports to USA have grown from 9% US consumption in 1950, to a peak of 35.5% in 1996. The share in 2000 was close to 33%. Since 2002, USA has been applying countervailing and antidumping duties of 27.2% on imports of Canadian softwood lumber which considerably affects the costs of production and the general profitability in this industry. Indirectly, this contributes to the process of decline. Underlying causes of this conflict are numerous. Competitive challenges include a growing timber deficit in US, US export restrictions oriented to conservation and control of domestic prices, and the fact that private forest owners in USA pay no stumpage on timber when harvested. In USA, little is spent on forest management which artificially depresses log costs, and protection restricts lumber imports, raises domestic prices, elevates the price of forestland properties and subsidizes private forest owners (Government of Canada, 2004, , 2005; Reed, 2001).

This conflict has clear political-economic dimensions, such as international trade and NAFTA agreements, which local actors and municipalities cannot actively influence (Campbell, 2006; Government of Canada, 2004, , 2005; Reed, 2001). Discussions and negotiations continue, but an agreement has not yet been reached regarding policies and changes that would replace the current duties in the event of a settlement (Government of Canada, 2004, , 2005). This conflict also illustrates

how the region is dependent on the national and international metropolis. The region exports forestry and agricultural goods on terms and conditions that are decided externally and governed externally. Key regulations are decided without participation of local actors.

5.4 The Ecological Dimension

5.4.1 Environmental Networks

Environmental networks in the RRD have long- standing traditions. A diversity of actors (individuals and organizations) with a strong commitment with the preservation of the natural environment and environmental education of people about local ecosystems (e.g. bird watchers in Atikokan) are interacting in a complex web. The Rainy Lake Conservancy network, which can serve as an example of these types of networks (Figure 5.5), is focused on the preservation of Rainy Lake, but with extended ties to diverse local actors. As a result of its goals and activities this organizational network is more open than others, and has diverse links with actors external to the region, which enhances its flexibility and adaptability.

Figure 5.5. Rainy Lake Conservancy Network
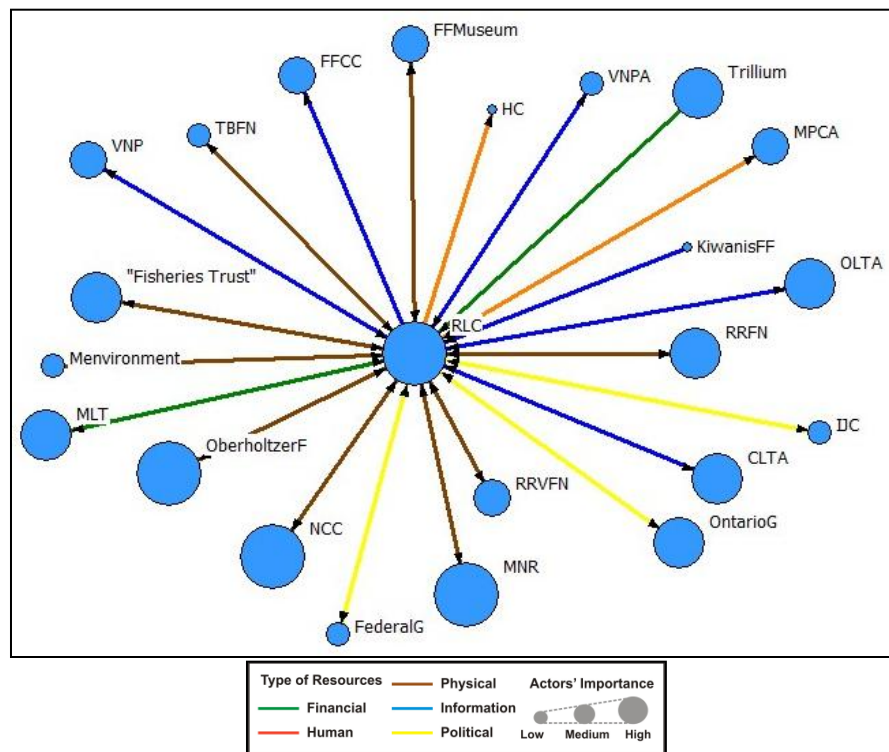
This network reflects the strong connection among environmentalists' organizations and other institutions in the region to protect the Rainy Lake. Source: Information collected through interviews with leaders of the Rainy Lake Conservancy Network.

5.4.2 Natural Capital

Three types of natural capital are in use in the RRD: natural resources, sceneries and ecosystem services. They are the basis of the regional economy as the communities rely on their use to run the industrial networks of forestry, agriculture, and tourism. This dependence imposes a vision over natural capital as having a particular, sometimes very narrow, use value (i.e. forests as a source of timber, lakes as spaces for cottage development, etc.). Usually, diverse organizational forms linked to these industries are declining or transforming. A sustainable form of development for the RRD needs to include the intrinsic value of the natural capital, and supporting those institutions and organizations facilitating new relationships between the natural and the social systems in the region. In this regard, it is important to note that the concept of capital excludes some important considerations in the valuing of aspects of social-ecological systems for example from First Nation's and farmers' perspectives. A First Nations elder refers to these alternative considerations:

> An elder once told me a story: The Company promised to build a mill to extract the red and white pine. The elder said why we should do that? He [the company manager] said, you know, is because economics. The old man said: do you know how many things live because of that tree? Little ants, birds, bugs, little trees, everything that goes around it, and the oxygen it produces, so before you decide to cut down that tree think about those little things, and all the things that this tree does, and how are you going to replace everything else and how it is going to make it better for my economics. They only think about today, they don't think about tomorrow. Everything I do is for my grandchild, and his grandchild, native people plan for seven generations ahead of time, if you can plan for seven generations from now, for all your grand kids and their grand kids, etc., and if you can make that happen and if you can follow that plan, then you are doing something [RR.FN1].

Fishing in the RRD is an example of these new forms of relationship. Although tourism is switching to a friendlier and sport-oriented approach through fishing tournaments, there is high pressure on diverse species and there have been recent measures applied to protect some of them, such as the 2008 ban on sturgeon fishing. Sturgeon is particularly important for First Nations communities and is part of their worldview and traditional cultural practices. The Rainy River First Nation spring fish fry at the Manitou Rapids is a cultural landmark in the RRD. Also, fishing tournaments in the region attract tourists, represent important seasonal sources of employment and income and are central recreational events in the RRD. This example illustrates also the way in which networks facilitate the combination of capitals (natural and human capitals in this example), that further produce social, and financial capitals, and an important link between the social, natural and economic dimensions.

The Rainy River is the geographical backbone of the region, and together with Rainy Lake, Lake of the Woods and the hundreds of lakes create a particular landscape where water represents the central asset. Two organizations are working steadily for the conservation of this important regional

asset. One is the Rainy Lake Conservancy whose efforts are oriented to protect Rainy Lake from shoreline development and from implementation of dams for hydropower. The second is the Rainy River Reserve Watershed program, with a wider scope for protecting and recovering the Rainy River watershed and educating about its cultural and historical significance. Both organizations are networking with community members, businesses, farmers and municipal, provincial and federal agencies and others in inter-organizational and bi-national cooperation. This network reflects the importance of combining human and social capital to recover natural capital. The links between the social and natural dimensions, if properly identified and supported can, become an important developmental force for the region. A Rainy River Reserve elder describes this work:

> There are three important things to think about, air, water and earth. They are connected. We are destroying them, that is happening in this river right now, that is part of our program here [Rainy River Watershed Program], we are working with farmers so they don't drain all that stuff [agrochemicals] into the water and what is happening is killing all things down the river, our sturgeon is declining because of that [RR.FN1].

As a result of the historical process of European occupation of the region, lakeshores of Rainy Lake and Lake of the Woods and riverbanks were privatized to a high degree. In some cases, municipal councils have promoted marinas, but refuse to go further in opening up shorelines for public access and use. A municipal councillor relates his experience with this issue:

> We are proposing to create a park, which will include 45 acres with 500 feet of beach, we want to put a housing development in there, of 12 lots of 2 acre lots, where the main idea is to show people that you don't need beach front private, so beach front can be shared by people, so you can have a lower lot price but other people can enjoy the beach, however the notion was strongly rejected by my council. Because land use in the park still a possibility six years from now, they had troubles envisioning that kind of social relationship whereby is possible to share [LW.M1].

In this regard, the Manitou Mounds in Stratton, the longest area of river shoreline accessible to the public, and maintained by Rainy River First Nations, offers a different perspective. This is a sacred and cultural place for the Ojibway people, also a national historic site, a place of outstanding beauty and ecological value, which has facilitated the exchange of ideas over the centuries. Rainy River First Nations has devised cultural and educational goals for this place and implemented a high quality visitors' centre for that purpose. These features reflect the multifunctional nature of this place and offer an example of the type of future activities that the region needs to develop to maintain regional socio-cultural attributes in the face of structural changes.

The ways in which the regional agricultural community uses its soil base are starting to change. The agricultural network has increasingly adopted principles of soils and water conservation and introducing new values that can be seen now in practice. For example, cow/calf ranches, elk ranches and other meat production operations are steadily adopting more sustainable processes and

environmental stewardship using the slogan "making profit with healthy cows, healthy land and healthy families." These efforts are accompanied by new technologies and approaches to farming such as organic production of beef and elk, fencing waterways, and solar-powered water pumps, which is leading to an increasing benefit for the environment, the farm and the regional economy.

Despite the significance of the natural capital for attracting tourism and new immigrants to the region, and for being the real base of the regional economy, the intrinsic value of natural resources has been secondary in the political agenda of local councils, who continue to emphasise the need to attract primary industries.

5.4.3 Environmental Conflicts

Current forms of use of natural resources have led to the formation of diverse types of environmental conflicts. Two of them that currently affect the region are the renewed provincial Endangered Species Act discussion and the provincial decision to close all coal-fired plants power in Ontario by 2014.

The Endangered Species Act (ESA): Conservation issues came to the forefront recently in a campaign against the new ESA. Opposition to this new body of regulations combined both economic and environmental issues. Four groups of actors directly participate in this conflict. The first group are politicians, leaders, CEOs of mills in the area who share the position of the Forestry Coalition – (FC) and consider that ESA represents a policy regression since it will extend the times for forestry allocations use, increase costs of production, and add to the existing uncertainty about forestry in the region. In summer 2008, the FC rallied throughout Northwestern Ontario in a campaign to increase public awareness and collect letters of support. In general, this was seen as another top down measure coming from Toronto, and imposed on the regional economy and communities, and thus actively rejected by these actors. In the second group are Save Ontario's Species (S.O.S.) coalition that include five conservation groups – David Suzuki Foundation, Environmental Defence, Ontario Nature, EcoJustice and CPAWS-Wildlands League. In the third group are provincial government agencies such as Ontario Ministry of Natural Resources. Finally, there is a group of local people who consider that there is a need to explore alternatives to traditional forestry industry and the way forests have been used. No discussions about alternative opportunities for forestry were discussed, nor was the potential for coexistence of industries and conservation initiatives. In June 30th, 2008, the provincial government finally approved ESA, pre-empting for the moment this environmental conflict.

The Closure of Coal Plants: this second environmental conflict was again precipitated by a top-down decision by the provincial government to close all coal plants in Ontario by 2014. This conflict has a similar actor structure (i.e. central government, municipalities and local actors) and will directly affect existing coal plants in Northwestern Ontario and the employment dependent on those facilities. In an interesting turn of events in this conflict, two First Nations Reserves, as part of a consortium of private sector partners, offered to buy the Power Generation Station of Atikokan and converting the plant from coal to biomass. At the closure of this research this project proposal was still advancing, while tensions between municipalities and the provincial government remained as the closure date of 2014 was not modified.

Three elements of environmental conflicts must be mentioned: a) Described conflicts are implicit conflicts (Buckles, 1999) in which affected local actors cannot clearly perceive the impacts of forestry exploitation and coal plants on the general environment and as a result don't understand the reason for this type of policies; b) Both are structural conflicts (Galtung, 1996) which emerge from the application of top-down public policies where the local actors are neither consulted, nor given voice to participate in the creation of alternative solutions; and c) From the perspective of regional development, the main problem in both cases is the absence of specific consideration about the impacts on the local communities and how these type of policies hinder the realization of local potentials (Sen, 1999). Also, the government needs to consider the measures and activities that need to be coordinated among various ministries to address negative externalities on resource based communities in the RRD and Northwestern Ontario in general.

Other issues perceived as environmental conflicts in the area are cottage development and encroaching upon the river banks and lakeshores. Although new developments on crown land are strictly controlled by MNR, diverse economic actors and politicians continue pushing to facilitate new developments. A local leader expresses concerns about this process:

> If we protect the watershed and the mill closes down, the treasure that this town has is the water, so do we want to become an over congested, big mansion harbour like Kenora or are we going to protect the watershed? Yes with some cottages, but a place where you can fish and enjoy the environment...now if the town wants a cottage development over the lake we know that is not the way to go but they would say we need the tax base [FF.RL1].

Although cottage development can provide economic benefits in the short run, it can also negatively affect the potential for ecotourism, which is one of the key regional potential.

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5.5 The Political Institutional Dimension

5.5.1 Political and Policy Networks

The structure of this network is integrated by three political webs in the RRD, political networks, political parties, and First Nations reserves and councils. Political networks in the area include wards, ten municipal councils and mayors, local constituencies, and the MP and MPP representatives. Political parties are receiving increasing pressure from the population as a result of negative effects of decline. The First Nations network in the RRD includes 10 First Nations reserves and councils. Together, these networks play a key role in regional development, as it has traditionally channelled lobbying initiatives from local municipalities up to MP, MPP, and ministries. For example, this network influenced past Ministerial decisions to support local industries and to attract to the RRD funding, new industrial facilities and government institutions. On the other hand, this network runs local governments, monitors the process of public spending, and represents the immediate bridge between the community and local and higher levels of government.

Second, Policy Networks in the RRD include three webs of institutional policy sources, government programs, municipal associations and First Nations institutions. Government programs comprise a network inclusive of formal government institutions that deliver policies, and span from local municipalities to federal government ministries delivering sectorial policies and programs.

Municipal associations include three networks working simultaneously. One is the Rainy River Municipal Association in which all 10 RRD municipalities are represented. The second is the Common Voice initiative, which is attempting to represent all Northwestern Ontario. Finally, there is the Northern Ontario Municipal Association, which is a chapter of the Ontario Municipal Association, and includes all municipalities in Northwestern and Northeastern Ontario.

The First Nations institutions comprise Treaty No.3, a historical First Nations political administrative body actively working with local First Nations reserves, and the Pwi-Di-Goo-Zing-Ne-YaaA-Zhing Advisory Services. The latter council includes seven out of 10 reserves in the area (Lac La Croix, Naicatchewenin, Nicickousemenecaning, Rainy River First Nations, Couchiching First Nation, Seine River First Nation, and Stanjikoming First Nation communities).

Finally, there is an informal policy network that includes all the Chief Executive Officers of the RRD. This network meets monthly to share information and knowledge so as to benefit informal collaborative, administrative, and project management.

Political and policy networks have been playing four important roles in the process of regional development. First, they have helped to attract human and financial capital into the region through diverse lobbying and networking initiatives, and historical treaties with First Nations. They enable the relocation of several projects and funds. Second, they are facilitating the emergence of new forms of public-private cooperation initiatives (e.g. the biofuel projects in Fort Frances and Atikokan). Third, they are a central part of the multilevel system of governance of this rural region and, as such, they play a key role as administrators of the planning and political processes of municipalities and reserves. Finally, policy networks not only help to transfer financial and human capital from upper levels of government, but also transmit top-down decisions imposed on municipalities, new regulations, planning initiatives and administrative restructuring decisions. Diverse gaps among these networks are also present, the most important of which is a low capacity to cooperate and work together towards a sustainable region.

5.5.2 Political Capital and Rural Governance

Political Capital: The RRD has amassed a rich stock of political capital. This is represented primarily by local governments of Municipalities and Reserves.

First Nations reserves are self-governing bodies regulated by the Ministry of Indian Affairs; reserves have a pyramidal structure that includes a chief and a council. There are 10 First Nations reserves in the RRD. Seven of these reserves are organized in a tribal council, the Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services. This council is governed by a Board of Directors, consisting of one representative from each participating First Nations. Furthermore, First Nations reserves are part of the Grand Council #3, which is a historic government body and a political organization comprising 28 First Nations reserves, 26 of them located in Northwestern Ontario and the two remaining in Manitoba. As a result the political administrative organization of FN reserves follows a completely different geographical, historical and political pattern than municipalities, having the advantage of representing a bigger and trans-boundary regional catchment.

Municipalities are democratic bodies regulated by the province and as such subject to potential transformations and amalgamations. The RRD is a single tier census subdivision that includes 10 municipalities. Government reforms conducive to amalgamations in the region (such as in

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Dawson, Stratton and Rainy River), were motivated more by desires to save money and to achieve scale economies than by clear goals to optimise the political environment or enhance the regional development. One of the effects of amalgamations is the current avoidance of collaboration and even considering possible solutions involving regional governing mechanisms (e.g. a planning authority).

Amalgamation of school boards, and amalgamation of social services (social housing, child care, and Ontario works) are the most recent initiatives implemented by the province, and they follow a similar direction. However, shrinking population and municipal tax bases are prompting political leaders to start trying new forms of cooperation. Dawson, Rainy River and Lake of the woods are currently working together to find formulas for sharing services and reducing costs. Recently, communities in the west-end have hired and shared the services of a building inspector, which represents a new service for rural communities and increases awareness of safety and quality building. These forms of cooperation are important in they demonstrating that more than municipalities working exclusively alone, sustainability of the RRD could rely more on shared forms of governance, cooperation and collective action.

Rural Governance: Municipal councils in the RRD are ageing, with low elections turnout and political leaders in charge for long periods of time, which is seen as difficult to improve; a local mayor describes this situation:

> The population is getting older, the political elite reflect that growing older group, and both are getting older together. Is hard to change this situation because the voter pool would elect always the same people, they move together. So the politics here remains as it used to be 25 years ago [LV. M1].

Although this continuity can favour the maintenance of continuous policy initiatives, it is causing four paradoxical effects. The first effect is the low public participation, particularly of young people, First Nations, and women in public matters and political life. This effect can be observed in their low participation in public council meetings and more important, as elected councillors. As an example, 16.5% of the population in Fort Frances self identifies as First Nations, however, there are no elected native (or other minority) politicians on this or any other local government in the RRD.

The second effect is that slow change in the political elites does not facilitate innovation in traditional forms of work. Political elites will tend to maintain traditional forms of work, and to continue applying formulas that worked in the past (e.g. attracting and protecting big industries), as a result, initiatives to promote alternative forms of development and a regional planning perspective are difficult to introduce and sustain.

A municipal Chief Executive Officer explains this problem:

There has to be willingness to change, and the older we get as people the more comfortable we get in our position as a politician or administrator and the less we want to change. Unfortunately we don't have a lot of young people involved in processes that facilitate this change. Sometimes I think that other than a big stick coming I don't know what can do it [D-RR.2].

The third effect is that consolidated political elites in towns favour initiatives that tend to maintain the traditional way of life and protect the mono-industrial type of development, hindering this way potential transformations in regional development. The absence of policies oriented to consolidate regional development alternatives to forestry and a decisive local and provincial support to forestry corporate initiatives reinforce this trend. Diverse concessions and subsidies are made to central industries in order to keep them alive and preserve the current structure of the economy. The latest is a $22.5 million grant through the Province's Forest Sector Prosperity Fund to construct a new biomass energy generator at the Fort Frances mill. The effect of this conservative strategy on the regional economy is that the period of decline is extended and the forces of change hindered, while emergent initiatives are postponed as a result of lack of funding or lack of interest from local policy makers. A local mayor reflects on this trend:

I don't think we are going to see a new corporation coming here to do businesses in the next 15 years. I think we have to work with them, and try to sustain a good relationship and keep them as viable as possible in this community. They are a very good corporate citizen. We are pretty blessed to have them here because a lot of them in Northwestern Ontario are gone by the board [FF.M1].

Finally, cooperation between municipalities and reserves is not a priority, although some political leaders recognized the importance of collaboration. Cooperative actions among social and industrial networks are common, though formal cooperative activities between towns and reserves are scarce. These elements reflect the persistent political divide between municipalities and reserves, and the need for political invigoration in the RRD.

The analysis of the governance system in the region makes also clear the need for skills development and programs for the formation of future leaders. Also, limited public participation in council meetings and formal planning processes hinders public discussion of municipal and regional development issues, frequently confining it to informal institutional spaces. This separation reflects an existing gap between the political networks and social and environmental networks. This situation also determines the existence of diverse viewpoints about how to react and cope with decline, as well as the absence of a prevalent common vision for the future.

5.5.3 Political Conflicts, Policy Conflicts and Public Participation

Political Conflicts

Two political conflicts are of importance in the RRD. One is the segregation of First Nations Reserves from Municipalities which has been described above. The second is a permanent competition for resources among municipalities. Towns compete for government funding, to attract industries, and to implement projects. In general a cooperative approach for regional development would be more fruitful than the continuation of competition and exclusion. Only this conviction will facilitate the beginning of a process where communities will be able to start transforming these conflicts into forces for positive change and reconciliation. A political leader describes this situation:

> There are different conflicts among municipalities in the region, there is no a cohesive plan in all of them, they are more centralized for themselves, they are not concerned about the neighbours, we should be thinking more from the perspective of a county, so no matter where development happens the taxes would come to the county, that would be the biggest change to make things happen here...we would all benefit from that [E. DC.1].

Policy Conflicts: Policy conflicts, concerning transformation of governance in the RRD, demand the involvement of a larger number of actors. Three different policy conflicts were observed in the RRD. First there is the discussion about the Endangered Species Act. Second is discussion relating to the coal plant closure (see section 5.3.3). These conflicts are considered again here because the central argumentation in both cases revolves around specific policies. The third important policy conflict is related to the Canadian security restrictions on the border that considerably affect the inflow of tourists into the region. As a result of tighter security after the events of September 11, 2001, USA tourists' security profiles are checked and even the identification of traffic infractions can cause for rejecting an entering US person. This turndown of tourists is considerably affecting tourism operators in the area.

Collective Action and Public Participation: The concept of public participation emerged in the 1950s (Rahnema, 1992) and is considered a corner stone in New Regionalism approaches to planning for sustainability and equity (Pastor, Benner, Rosner, Matsuoka, & Jacobs, 2004; Wheeler, 2004). Participant observations and interviews suggest a contrasting situation in the RRD. On the one hand there is an active process of public participation in fundraising for public projects and community activities. However, the majority of Chief Executive Officers in the region concur that there is a limited participation in public meetings and in the municipal planning process. Thus, public participation related to planning in the RRD is disconnected from the grassroots. Apparently, this

problem is caused by a lack of engagement of people in the planning process (see Chapter 7). A mayor describes this situation:

> Public meetings are poorly attended. I don't know how to get them more involved, the only thing is when you hit their backyard, and then they will come and scream, and that usually happens when you have done all your planning process and you are starting to build. On the other hand this community has been very involved in fundraising for particular facilities like the hospital, the library, and the arena, so when you do that kind of things they are right behind you, so it's a kind of paradox [FF.M4].

Participation research provides evidence that when people are actively involved in the planning process cycle they are more likely to be supportive of this process (Grant, Manuel, & Joudrey, 1996; Potapchuk & Crocker, 1999). Participation brings to the analysis of decline what it needs most to avoid using past tools and repeating past failures. Participation provides a close knowledge of the local-regional reality which external consultants and government representatives do not necessarily have. Participation involves networks of relations, essential to connect the planning process with the regional social structure; and to the success of long term plans and investments in rural areas. Finally, participation facilitates the connection and cooperation of local and regional organizations able and willing to participate in the process of rural development. Social networks and their actors are the soft infrastructure needed to conduct the necessary actions to cope with decline, and their participation is the *sine qua non* that facilitates change (Rahnema, 1992), a change that starts from within and looks for common goals,

> ...in a creative journey into the unknown. It does not mean to conform to a preordained pattern or ideal designed by others, or even one designed by one's own illusions...For change to happen and to make sense, it should represent the open-end quest and interaction of free and questioning persons for the understanding of reality (Rahnema, 1992. P128).

Disregarding public participation in the approach to decline and rural development will lead to superficial or fragmented achievements, and no lasting impacts. This research confirms that in general for declining communities, but particularly when extending the theory of New Regionalism to contexts in decline, public participation must be especially considered (Pastor, Benner, & Rosner, 2006; Rahnema, 1992).

Further, public involvement in the planning process is advocated in this research because "*planners cannot create sustainable communities without commitment from community residents to change the way they live on the land, and their attitude towards it*" (Grant, Manuel, & Joudrey, 1996, p. 341). A participatory planning process provides a forum for realizing the ideals of participatory democracy as a means for democratic discourse (Innes, 1996). Finally, public participation is frequently linked to capitals, as it helps to build social capital which in turn strengthens the community (Potapchuk & Crocker, 1999). It can also help to rebuild communities, as it builds upon

the social, intellectual and political capitals in the community (Healey, 1997; Healey & Shaw, 1997; Innes, 1996; Neuman, 1998).

5.6 Networks and Regional Development

5.6.1 Network Mechanisms

Network analysis helps us to understand why some communities decline faster than others, what changes characterize a region in decline, and why the speed and intensity of decline differs in communities within the same region. Diverse illustrations of networks in this Chapter point out to five mechanisms explored in social network analysis, and drawn from a combination of economic and ecological theorems (Stephen Borgatti, Mehra, Brass, & Labianca, 2009; Friedrichs, 1993; Wasserman & Faust, 1994) useful to illustrate links between networks and regional development:

1. Direct Transmission Mechanism: The network examples in this Chapter graphically illustrate how direct transmission of capitals from node to node happens. Importantly, flows of capitals and resources within these networks can be a tangible transfer, as in the case of material resources such as money and physical resources, or intangible, as in the case of information and osmotic processes that produce the transmission of ideas. However, the networks analyzed show the prevalence of strong bonds but limited external links. Weak external links are necessary to create new business relationships with other regions, to adapt and to implement innovations from elsewhere, and to identify and attract new investments.

2. Adaptation Mechanism: This mechanism facilitates nodes (actors) in a network to become agreeably collaborative as a result of shared experiences and jointly created capitals. As in biological mimicry, when several actors create and share ties within the same environment, they will be influenced by similar forces for change, and, with time, they will slowly adapt to each other and become increasingly similar. This mechanism can produce positive outcomes as is the case of the museum network that is fostering knowledge about the region and facilitating cultural learning from the two main cultures in the RRD. Nevertheless, this tendency to become similar can also produce negative outcomes because prevalent strong ties will delay the construction of ties with newcomers and bridges with external actors. An example in the RRD is the Chambers of Commerce network, which has strong ties predominantly with the local business community but the slow decline in retail and forestry is rapidly exhausting this network.

3. The Binding Mechanism: Social ties can bind diverse actors together such that the resulting mechanism is more than the sum of the participating actors. As in ecological symbiosis, this

mechanism facilitates the emergence of new institutions. The regional abattoir is an example, an emergent institution already considered as a new actor in the agricultural network. It was created by the cooperative efforts and resources of the participant actors in the agricultural network.

4. *The Exclusion Mechanism*: When two or more actors in a network compete for the use of the same resource, one will displace or exclude the other. On the contrary, a cooperative approach strengthens the network with a more homogeneous distribution of benefits across the region. As in the competitive exclusion principle in ecology, this mechanism helps to explain why diverse actors sharing the same area, having similar ecological requirements but low levels of competition and cooperation among them, can be displaced by an actor with higher economic power. A clear example occurs in retailing. Local retail stores have strong mutual links, and with time they have become specialized in offering certain produce, so competitiveness among them is low, but so is the level of cooperation. The relocation of Walmart and other big box retailers in the central area of the region has drained out all the small retail from the towns across the region. This mechanism also suggests that not all effects of strong bonds are positive, since strong social ties can prevent adaptive change.

5. *The Relativism of Peripherality*: Six degrees of separation theory suggests that in the context of social networks, distances are relative (Albert, Jeong, & Barabási, 2000; Strogatz, 2001; Watts & Strogatz, 1998). Applying this mechanism in the context of small declining towns, one notices a similar effect. While the RRD is a great distance from southern Ontario, its people have created connections with people in other communities within the Region or beyond it. These are family ties, acquaintances, employers, partners in a network, etc. For example, that determined the success of Atikokan in attracting new businesses in the past. On the other hand, everybody in the region knows someone who has moved away, which represents a link between the region and other geographically- distant communities. As a result, despite decline and remote location, the region is now more globally connected than one might think. These connections shrink geographical distances and can potentially bring the whole world closer to declining communities in the RRD.

5.6.2 Network Decay

In resource based communities one can aggregate actors in two general groups, both in close physical proximity. On one hand there is a dense network of actors and agglomeration effects from having a critical mass of loggers, farmers, miners, and professionals, with specialties necessary to develop particular natural resource uses. Conversely there is a network of services integrated by lawyers, accountants, retailers, and others to support them. Once decline starts, unemployment will affect this network of professionals, and experts, and many of them will leave the town. It is

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extremely difficult to attract new people and talent to rebuild these dense networks, and particularly to recover the level of experience developed by the members of these networks. Jane Jacobs considered that having different types of people, with different professions and skills, all interacting in a close environment, is an essential stimulus for innovation and the creation of new forms of work (Jacobs, 1961). Hence, networks and the innovation capacity that flows from them are in the long run the true engines of growth and the factor that determines the level of vitality in any community.

Network decline is one of the processes that characterize community decline. Community-based and industrial based organizational networks play an important role in peripheral regions. Both networks are interlinked and interdependent. Hence, in the RRD organizational networks are the backbone of the regional society and economy. This complex system of networks has provided employment, income, and social support to their members for decades. Although some of them are in decline, new emergent networks and the transformation of some of the traditional networks are providing new jobs to local people and facilitating interesting transformative processes that represent new opportunities in the face of industrial restructuring.

Diverse authors provided evidence that network decline or resilience depends on context conditions and differentiated institutions (sets of rules) that networks have to preserve their integrity (Lin, 2007 ; Munshi & Rosenzweig, 2007). From this perspective, social networks in the RRD can be aggregated in three groups: The first group are traditional networks whose informal institutions protect their integrity (e.g. First Nations and the Mennonite Community). An individual who chooses to exit one of the networks of this group might have to deal with the loss of community support, their culture and beliefs, as well as informal social sanctions applied to people that leave the network. This is a growing, vibrant and expanding network of people working for the well being of their communities. This group has an important capacity to recover, to adapt to new conditions and change. For example, the residential schools had an important impact on First Nations communities in the region, but these communities are currently in a process of recovering and healing. First Nations young people either do not leave their networks or easily return once they realize the benefits of belonging. This example illustrates the high level of resilience present in First Nations networks. Another advantage of these networks is that they do not depend directly on the industrial networks, whose decline does not affect their behaviour and performance. A young First Nations adult, currently living in Ottawa, reflects on his experience outside the RRD reserves:

> It's a lonely world outside, is difficult to go away from your people to get educated, but if you have your medicines, gifts, prayers, language, you can still be who you are and still be honourable. You have to go there and get educated so you can bring capacity, jobs and education back to your communities [FF. FN5].

The second group are emergent networks that do not have institutions to protect their integrity (e.g. sporting, environmental and the museum networks). This group does not have restricting institutions that discourage their members to leave the network but have incentives of cultural, social, knowledge, and aesthetic values to prolong their membership. Although this is also a vibrant type of network they are not expanding like the previous group. An important advantage of this group of networks is that they have a more open structure with diverse weak ties that connect them with other institutions outside the region. An additional advantage is that emergent networks have weak links with industrial networks, based on sporadic donations and information sharing, and this incentivises their ingenuity and resourcefulness. Finally, by working on cultural activities, these networks are improving the quality of place, which, in the long run, helps attract new people and new economic initiatives to the RRD. A director of a local museum describes their actions:

> We are trying to build on a different aspect of the economy, we are trying to build on culture, and enhance community potentials to make this community a more attractive and a better place to live in, this way we can attract new businesses, and new things. If new people come they will need cultural activities [A.M1].

Finally, there is the group of traditional networks that have formal institutions to protect their integrity (e.g.The Legion, Kiwanis Club and churches). This is a group of ageing and declining networks, but with a highly concentrated political and economic power. This group historically emerged in parallel to industrial networks; they were created by the actors and for the actors belonging to industrial networks and hence tend to be dependent on these networks. With time, industrial networks evolved and rapidly transformed their structure as a result of the impacts of commodity cycles, but their social networks could not keep pace with such change. As a result, once the central industry closes, the social network woven around this network collapses, because it did not develop capacity to react and change. An example is the closed forestry network in Atikokan and the decline of linked to it local networks (e.g. the union, churches and social clubs), which are altogether collapsing. Pastors and priests in the region also concur that declining population is considerably affecting their religious communities. A Lutheran pastor describes the problem:

> My Sunday school went from 40 to 14 children since 1997. The Presbiterian church here closed. The Pentecostal pastor moved and we haven't have a leader for that church for over a year. The Anglican church went into a transition process and is creating a new institution [FF. LC1].

5.6.3 Places as Networks:

The analysis of places often glosses over the existence of networks behind them, while the analysis of social networks usually neglects the importance of place. It is difficult to think about a place that simultaneously represents a network, but there is a synergy between spatial settings and

social networks, in other words local social networks affect the physical environment and vice-versa, hence, there is an interface of places and networks that helps not only to understand the importance of social networks, but also to identify practical ways to enhance ecological and socio-economic networks as a way to facilitate adaptation to extreme changes in declining regions. Vibrant ecological or socio-economic networks are usually behind successful towns and successful locations within them. In a region with problems of population and economic decline the question about what attracts people to some locations and Towns and not to others is of particular importance. This section approaches this question, considering its significance for declining communities as it can reveal two interconnected elements. The first is that places can be used to enhance the social structure and economic aspects of development. The second is that forms of connectivity linked to places need to be fostered and enhanced in order to facilitate new forms of self organization, and emergence of new initiatives and forms of cooperation.

In the RRD, the physical environments of several places were significantly improved following modern planning advice and practice, including the marinas in Fort Frances and Barwick, Main Street in Emo, and the museum in Fort Frances. Nevertheless, people's use of those spaces is not as high as was expected. Important investments made to beautify towns, often following the idea of main street beautification, are seemingly not generating the expected impact on the economy and recovery of towns. On the other hand, other places are more often used, even though they are not always aesthetically appealing, easy to reach, or located in urban areas. I argue that the common element of actively used places is that they offer affordable, useful, meaningful, and timeless forms for social interaction and connectivity. They facilitate the interchange of experiences and resources, and, as a result, are places of social learning. In the RRD these places are not located in the downtown core. The information about their location and events is transmitted by a word of mouth. They are not directly linked to industrial networks, and as a result frequently discarded from the scope of attention when declining processes cause fiscal shrinkage and municipalities need to reduce investment in services. The Pow Wow fields in First Nations Reserves, a barn in La Vallee, Farmers Markets, the Mounds Museum in Barwick, and local libraries, are all places with apparently no common elements, but yet are actively used by people from across the region, attract tourists, and are significant for people in the community.

The interface of places and networks has several common features:

- Offer a unique form for social interaction.
- Facilitate the gathering of people belonging to one or diverse communities.
- Function through a network that has been build with time; i.e. has historical origins.

- Work as natural hubs for social networks and facilitate the connectivity of its nodes.
- Have a particular set of rules and hence work as formal or informal institutions.
- Enhance the sense of belonging, and have special significance for young people.
- Work as powerful engines of interconnectivity for the regional society.

Consequently places are part of the structure and function of social networks. The urban or rural categories do not apply here because this interface of places and networks facilitates the interconnectivity of people living or working in urban and rural places, and facilitates the interchange of urban or rural services or products, frequently interconnects urban with rural landscapes, and is usually positively or negatively influenced by urban plans or rural development initiatives. This research identified three types of these places/networks:

1. Networks Organized Around Physical Settings (specific places): These places can be located within the built environment (towns and reservations) or within the natural environment, and are usually specific buildings or a simple structure that offers a particular function or service. Communities of interest (Black, 2005) with a shared function or identity are brought together to these places through a network of connections. As an example, during the summer, libraries in the Region, the corner of Scott and Church in Fort Frances, and car racing in Emo, are probably the most utilized urban places in the region. Figure 5.6 represents networks of public libraries in the RRD.

Figure 5.6: Networks and Physical Settings
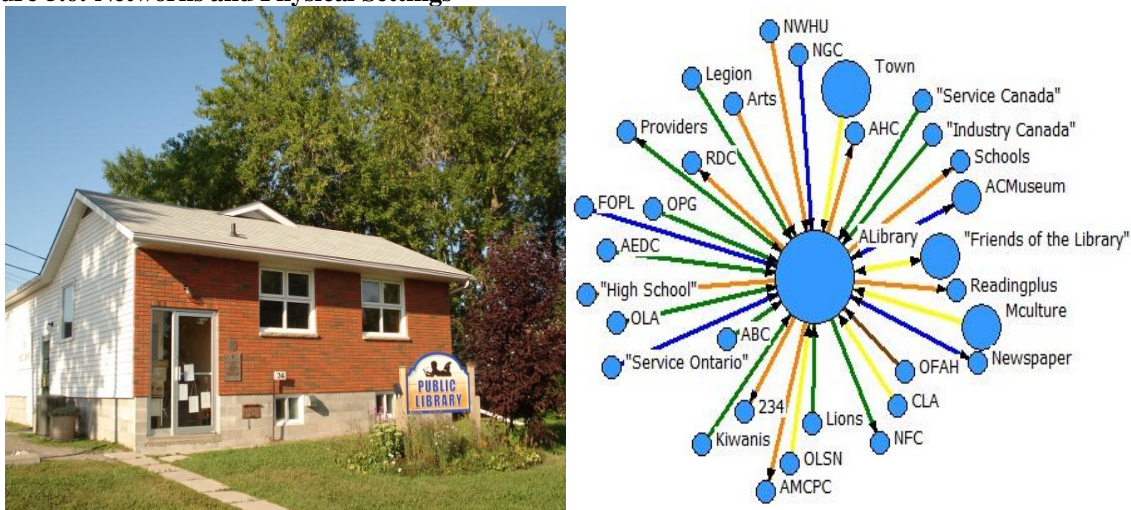
Some places are more than the buildings or the service delivered in them (e.g. Emo's public library, left picture). Libraries, museums, etc. facilitate people's connectivity and flows of diverse resources through complex social networks functioning behind them (e.g. Atikokan public library network, right figure). Source: Interviews with librarians and curators in the region (Summer 2008).

Although a library is a building constructed to provide a service, this place is primarily the hub of an important social network that facilitates not only academic learning but also experiential

learning and the interchange of diverse resources among participants. This figure also shows, beyond the services of library itself, what is lost when a library is closed. It is the strong social network that is created around this place. This loss is impossible to recover, as it was constructed and enhanced with time to reach specific goals and interchange, among network's participants, of diverse resources such as information, physical resources, and human resources. Hence, specific places like this library are part of the function and structure of social networks, as they work as natural connecting hubs for diverse nodes in the network.

Furthermore, amalgamation of schools, municipalities, and other formal institutions must also be considered from this perspective, as the economic efficiency alone, pursued through diverse amalgamations, can neither detect, nor assess connected social and cultural losses. Moreover, disappearance of these types of networks also represents a loss of opportunities for recovery from decline, as these networks function as key connectors that facilitate collective action.

2. Networks Organized Around or Linked to Landscapes: Those places/networks with a focus on location usually involve a connection with a particular landscape where sceneries or a particular natural resource are the connector. People in this case are brought together through networks of connections that interchange information, goods and services related to the use of a particular landscape. Rainy Lake Conservancy, the bass tournaments, and the Ski Club in Atikokan are examples of this type of place/networks. Figure 5.7 illustrates the network of Rainy Lake Conservancy, organized to protect and preserve this natural asset.

Figure 5.7 Networks and Landscapes
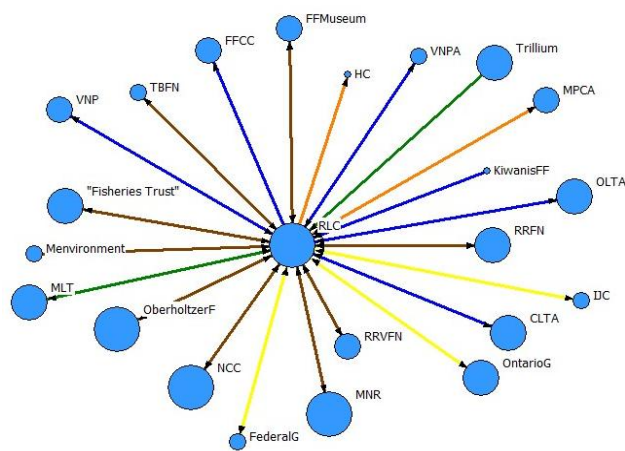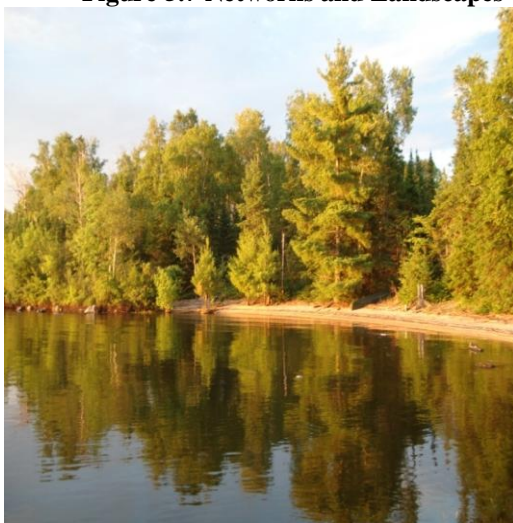
 This place/network is organized to protect the Rainy Lake (left picture), through diverse initiatives that demands connections at the regional, provincial, national and international levels to create the necessary flow of resources (right figure). Source: Interviews with leaders of the Rainy Lake Conservancy network (Summer. 2008).

3. Mixed Places/Networks: These are networks that are organized around or linked to landscapes but they can be only observed through the analysis of specific places, e.g. the mill, the farm, and the hotel. An example of these networks is industrial networks, organized purposefully to use specific natural resources, and located in urban or rural environments, where participants can belong to one or more of these networks.

Figure 5.8 illustrates the RRD Federation of Agriculture. This is an agricultural network that is self- organized within the farmer community. As part of these networks, farmers interact with diverse actors to conduct their businesses and create new initiatives to adapt to changing processes in the region. The intense activity of this network frequently materializes in specific buildings, such as the barn located in La Vallee municipality. That is a heritage building renovated primarily to facilitate cultural exchange through concerts and celebrations. However this project is fulfilling diverse needs and reflecting diverse features of the regional community. First, it is an important place to gather; it interconnects diverse social networks, and it facilitates exchange of information. Second, this place connects members of diverse communities of place and of interest in the region. Third, as a heritage building reflecting more than a hundred years of history, it is an icon of the RRD agricultural culture.

Figure 5.8: Mixed Places/Networks
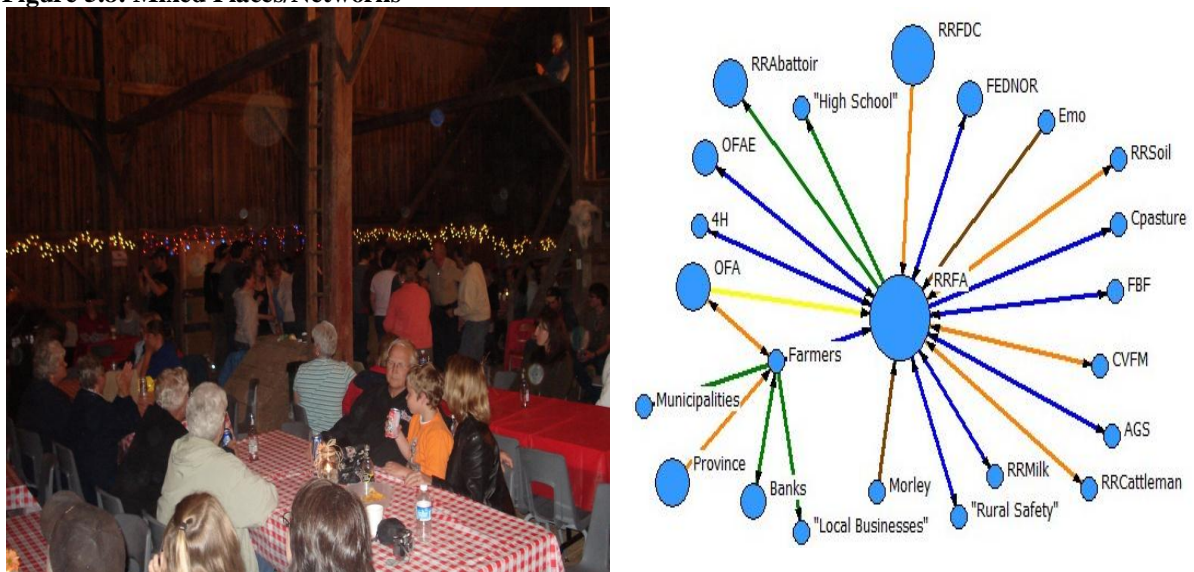
Mixed places/networks, such as the RRD Federation of Agriculture (right figure) develop their action at a landscape level but their initiatives are frequently materialized in specific places, for example the Barn in La Vallee (left picture), reflects one of the initiatives put in place by leaders of the agricultural community. Source: Interviews with farmers (Summer, 2008).

Finally, this barn is clearly illustrates local collective action and self-organization reaching meaningful goals. It also represents the type of elements that the regional community care about and want to sustain.

In summary, places/networks are hubs that reflect, materialize, enhance, and orient the flows of diverse capitals and services of networks. From this perspective, a place is a space where diverse nodes in a network interact. This interaction can be casual (e.g. a conference in the library, a concert in the barn) or more permanent (e.g. through membership in the ski club). As a result of these different types of interactions, places facilitate connectivity. Consequently, it is important to identify these types of places in the region in order to enhance the process of connectivity, by improving these places, communicating with other actors in the region about their existence and analyzing social learning in these places. Learning in such venues occurs through the voluntarily interchange, and creation of new experiences and resources. As such, places/networks are also spaces where social learning happens. A local Pastor provides an intuitive description of the links described above:

> I can't stress enough how important are the rocks, the lakes, the forest for this place we call our community, this place is way more than people, I think that anyone who wants to be part of it needs to understand that. If someone asks me of how my community is, it is not just about the people that live here, it is also about the lakes, the rocks, the fish, the trees, and that has huge impact on who we are as people here, that is a very important part of this place. And is the main reason I love to live here, when I go into the lakes in my canoe I find healing from the stresses in my life, I find the magic and the reason to be here integrated with the environment, and in ways that I can share with others surrounding me like my family and my children [FF.LC1].

5.7 Conclusions

The analysis of the RRD from the perspective of networks, capital and conflicts, and following the multidimensional approach suggested by sustainability paradigm, facilitated the identification of useful elements for the study of decline as illustrated in this chapter. The analysis of decline must start with the understanding that each example of rurality is not a unique scenario but part of a continuum, involving a unique and complex combination of dimensions, factors, and processes. It will determine the sustainability of the development process and cause social systems to thrive or to shrink.

1. Networks: There are two overlapping processes regarding the social structure in the RRD. First, as a result of industrial restructuring, social networks are decaying and ageing, although political and economic power remains concentrated in these networks. This causes difficulties for emergent networks and newcomers to the region in gaining access to existing resources and networks. The second process is the emergence of new social networks in the Region, particularly those linked with First Nations, the agricultural community and environmental activities.

The analysis of networks is advocated here because many types of networks in the RRD make valuable contributions to socio-economic development and environmental protection. Communities in this region have a clear sense of the activities and identities in their specific area and

giving meaning to them. Social networks related to sport and culture not only facilitate these activities themselves, but also provide the necessary space for socializing, for renewing their social capital, for creating new links, and for maintaining their sense of belonging and identity with specific places. Vitality of places emerges precisely from this networking, something difficult to quantify, but highly deterministic in social and economic dynamics (see section 5.6.3).

This chapter suggests that networks need to be mapped and analyzed to find the benefits that they bring to socio-economic development. Networks can be planned specifically *for* development purposes. In this regard, the evidence and experience provided by diverse countries in Europe and in Australia is significant (Árnason, Lee, & Shucksmith, 2004; Martinez, 2001). As a result, a combination of existing social networks and new networks created for rural development can offer new and fruitful links between business, civic, and public sectors. Furthermore, it is important to recognize social networks as part of the planning process for rural development.

Central features and differences among the networks in the Region have been described here. They include the capacity to recover from economic and social crisis, to change and to adapt to new conditions of the regional environment; the level of dependence on the industrial networks; and the features of the network structure that help to explain their process of decline in the RRD. The analysis of networks also identified elements related to religion, education, culture, and social structure which also suggest different forms of network decay and as a result of population decline in rural regions.

2. Capitals: This chapter confirmed that available levels of social, human and institutional capital in a given community are directly proportional to effective responses to crisis (Grootaert & Bastelaer, 2002; Woolcock, 1998). In this Chapter I also described how out migration and economic uncertainty erode such forms of capital, considerably affecting the local capacity to react and change. Furthermore, more than high levels of social capital, what matters in declining communities is the way it is used and the ability to combine with other capitals (Black & Hughes, 2001; Grootaert & Bastelaer, 2002). As in other rural regions, social capital in the RRD forms out of social interaction. It needs enhancement through construction of vertical linkages between local, regional, provincial and state actors (linking social capital); and construction of horizontal networks of cooperation between actors at the local level (bonding social capital) (Cheshire & Lawrence, 2003; Coleman, 1988). Further evidence in this research showed how social capital can be positive or negative and can either foster or inhibit rural development (Árnason, Lee, & Shucksmith, 2004). In particular, lack of social capital has a detrimental effect on local socio-economic conditions (Fukuyama, 1995; Orr, 1999; Lamore et al, 2006), which potentially exacerbates the process of decline. However, bonding

links decrease the flexibility of local communities to cope with decline, may reduce local levels of well being, and increase conflicts among local actors (Jacob, Bourke, & Luloff, 1997; Lin, 2007).

As a result, the lack of social capital in regions in decline cannot be taken for granted. The RRD case illustrates that communities have a high level of social capital. The problem is the current process of network decline and social conflict which deters the realization and transformation of social capital in other forms of capitals. As a result, collaborative processes may be deterred even in the presence of high levels of social capital as a result of the decaying networks and profound conflicts. Activities of local economic development agencies also may consider a wider analysis of capitals to enhance the efficiency and expand potential areas of investment.

3. Conflicts: This chapter has confirmed how conflicts are and will be an integral part of the planning process for sustainable development. This results from permanent confluence of actors and interests in institutional settings for the pursuit and balancing of the three main goals of environmental protection, social equity and economic development (S. Campbell, 1996; Neuman, 1998). This chapter described the historical roots of a conflict between towns and reserves. Also, it analyzed the conflict among towns resulting from simultaneous decentralizing and concentrating processes. Finally, it described the process of structural violence perceived from external policies. Currently, these conflicts are combined with an increasing economic crisis that results, in part, from two overlapping commodity cycles, forestry and mining. The resulting scenario that combines conflicts and economic crisis is a central issue in the RRD that facilitates decline. This issue has produced two important cumulative effects that reach far beyond the individuals and communities involved in the conflict. One is the concentration of diverse capitals within specific social groups or cliques which to an extent don't trust each other. Low levels of trust impede the emergence of common initiatives oriented to regional development. Second, concentration of capitals in specific cliques excludes vulnerable social groups and new actors in the region from accessing those networks and capitals circulating through them. The process of decay of social networks increases this effect.

In general, conflicts negatively influence rural development, hinder local capacity, and cause damaging deprivations in rural communities. These effects are influenced by the nature of social institutions and policies (Daniels & Walker, 2001) which demands specific policy (Barnett 2008; Buckles 1999) and structurally based (Dugan, 1996; Lederach, 1997) formulations to reorient them.

Although the exposure to ethnic and other socio-cultural differences is often associated with greater social and economic adaptability (Ash & Thrift, 2002), ethnic diversity in the RRD is an important potential for development which is neutralized by intolerance and lack of cooperation

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among communities. This results from historical conflicts, structural violence and competition promoted by higher levels of government. In other words, the social structure in the RRD, composed by diverse networks (see section 2.4.3), is currently fragmented and influences local agency in contradictory ways. Local agency in turn has been disrupted by network decay and social conflicts among communities, which weakens its capacity to transform the social structure. This paradoxical effect prolongs decline and impedes the creation of common initiatives for regional development. Emergent networks and complementary actions oriented to promote rural development that address the role and potential of social networks may be helpful to exit from this reinforcing feedback loop.

In summary, the concept of decline and its central argumentative elements based on demographic and economic indicators is not only misleading but also inappropriate for analyzing distressed communities and rural regions. Such an approach can lead to superficial conclusions and inappropriate policy decisions that would negatively affect the most vulnerable population. Sustainability of rural communities depends not only on the number of individuals living there, or their ability to diversify the economy, but also and more important on their ability to rebuild or strengthen key factors of the social system such as social networks and institutional structure. Both are elements directly linked to the capacity for collective action (Dale& Onix 2005, Janssen, 2006). The combination of networks, capitals, and social institutions (e.g. conflict, trust, autonomy, relatedness and collaboration) is just as important in community development as economic factors, and their erosion can trigger decline (Hill, 2005). Similarly, social systems have a need not only to rebuild bridges with natural systems, but also to re-establish social networks within them.

Based on the above multidimensional reading of the RRD, it is possible to consider that although some towns (e.g. Dawson and Rainy River) face important challenges, while others have been amalgamated in the past, the RRD is not in a process of decline. On the contrary, the region is in a process of transition that can lead towards a more sustainable stage or to a further decline. In this process some towns could further decline and disappear, but other communities will emerge and grow. Conversely, appropriate policies and planning can enhance emergent positive transformations and ameliorate negative externalities perceived from declining networks and restructuring industries. This chapter has described diverse features of networks, capitals and conflicts and their role in the process of decline. Diverse elements for policy intervention were suggested. A closing analysis about functional mechanisms of networks, network decay and places as networks was presented. The next chapter complements the present reading from the perspective of mental maps of diverse actors in the region. The Chapter confirms the need to analyze causes of regional variations of development capacities and outcomes to better understand regional divergence (Allanson, 1996; Cochran, 2008).

Chapter 6. Modeling Decline.

6.1 Introduction

This chapter describes the use of the group model building approach, and the construction of a system dynamics model based on a participatory approach with key stakeholders in the RRD. In order to understand and suggest forms to address a complex problem such as decline, rural sustainable development demands consideration of diverse factors related to the society, economy, and environment (Dale & Onix, 2005; Flora & Flora, 2004; Marsden, 2003). To facilitate this process I used group model building, based on systems thinking, which emphasises the interconnectivity of diverse parts of a whole system. In practice, group model building helps to apply systems thinking and produce a model, as a real–world abstraction, so as to simplify complex real-world phenomena. The model presented in this chapter reflects how stakeholders in the RRD understand the complex problem of decline. In other words, it is a mental model of decline. The system in this case is the Region, whose subsystems are interacting municipalities and Reserves, and its components are diverse internal and external factors in the social, economic, political and environmental dimensions. They produce, as an emergent property, the process of decline.

The first of the two sections of this chapter presents the general model of decline and describes in more detail three important feedback loops. The second section applies a set of features from complex evolving systems to portray properties of decline. The conclusion points out several elements that are the building blocks used to propose the perspective of Enabling Infrastructures in Chapter 8.

6.2 A Qualitative Mental Model of Decline: Key Feedback Loops.

The General Model: Group model building method, and systems thinking in general, have been recognized as contributing positively to strategic planning processes and policy analysis by facilitating the simulation of policy scenarios (Saeed, 1994). A system dynamic model of a complex problem facilitates our understanding, clarifies its behaviour, and suggests policy and planning recommendations (Forrester, 1987).

To develop the qualitative model of decline presented in this Chapter four workshops were conducted in the RRD. These workshops followed the process described in Section 4.4 for developing a qualitative mental model (Vennix, 2001) . Complementary elements were also identified through interviews, and complemented with the literature review to triangulate the information obtained. The general model is presented in Figure 6.1.

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Figure 6.1. A Qualitative, System Dynamics, Model of Decline for the RRD
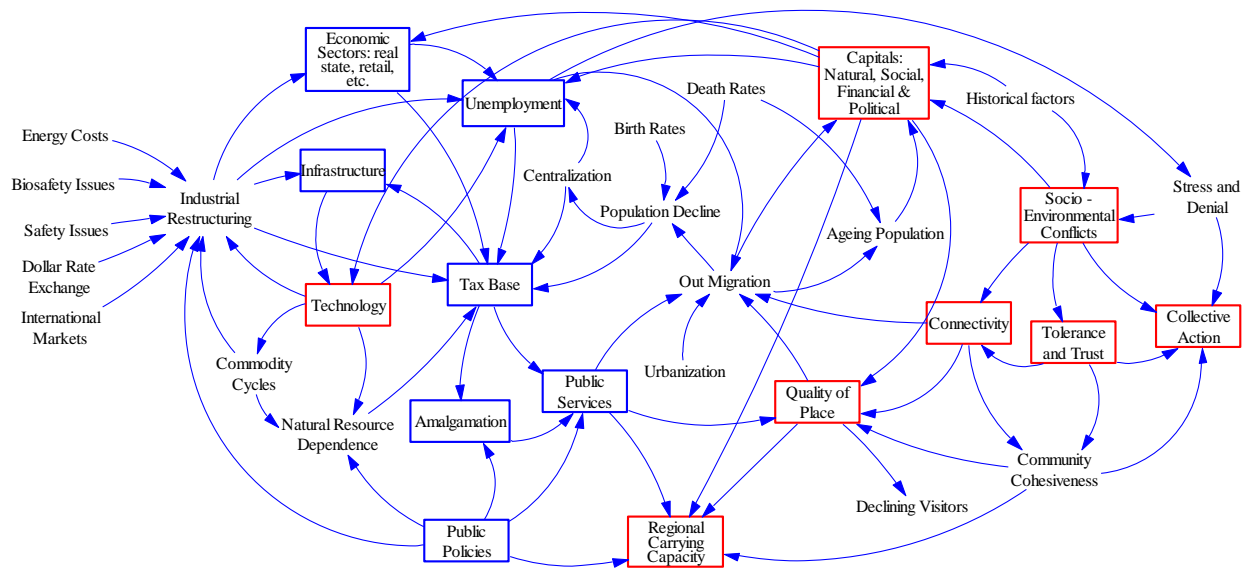
In this model the areas in which local administrations are working (blue boxes) clearly contrast with key areas where little or no action is conducted (red boxes). The cascade effect, feedbacks and non-linear cause-effects are also evident in this model. Source: Information collected through focus groups (Summer, 2008).

Figure 6.1 describes diverse factors of decline in the RRD, most of which were described in chapter 5. The importance of this model is threefold: a) It illustrates the complexity of decline, as a result of the multiplicity of factors interacting through diverse feedback loops; b) It facilitates the identification of diverse combinations and interconnections among factors and feedbacks; and c) It demonstrates that interpretations of decline based on linear cause-effect models, or focused on only one dimension, can lead to inappropriate policy decisions. From the interaction of factors in the model, the property of decline emerges. As a result, it is not possible to successfully address decline only by investing or putting in place initiatives that address individual factors, without considering the effects on the whole system. This model applies only for the RRD. A similar exercise must be conducted for other regions to find specific elements, and the ways in which they interact to generate the process of decline. In other words, the problem of decline and the specific process to find a sustainable process of development are unique for every region.

The general model reflects six interconnected dynamics. The first is the interconnection of diverse factors of decline. As a result the model also works as a map to identify and understand key feedback loops in the structure of decline. The second is that the system works in a cascade like process in which, for example, impacts from industrial restructuring are finally perceived in terms of levels of community cohesiveness and network decline. The third is that connections among multiple elements of the system are not linear, but usually working through feedback processes. Dynamics of

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decline in a rural region originate from exogenous (e.g. commodity prices) and endogenous (e.g. conflicts among communities) processes and feedbacks that interact spatially and temporally. The fourth is that communities in the RRD are making important efforts to address decline, but these are mainly confined to economic activities, highlighted in figure 6.1 with blue boxes. Other key structural elements of the system are not sufficiently addressed or are taken for granted (red boxes). Finally, it is difficult to intervene in other factors identified in the model, such as commodity cycles, urbanization, demographics, and historical factors. However, the identification of feedback loops linked to these factors is of strategic importance in understanding decline. It is important to mention that this model can be used to monitor the process of decline but more generally to devise approaches and initiatives that can address issues of rural regional development.

Figure 6.1 also highlights 7 elements (red boxes): capitals, networks (collective action and connectivity), conflicts, carrying capacity, technology, tolerance and trust, and quality of place. These elements confirm the importance of going beyond demographic and economic indicators to understand decline and to provide further evidence for central arguments in this research. The first four elements were detailed in previous chapters along with the other elements in the system. In this section we emphasise in the other three elements: tolerance and trust, quality of place, and technology, as they represent key feedback loops that can help to solve or extend the problem of decline.

a) Tolerance and Trust: Participants in focus groups and interviews agreed that conflict among communities in the area is one of the central elements hindering the capacity of local communities to address the structural problems that are currently affecting them. Two important regional conferences, called "*community summits*" held in 2005 and 2007 addressed this and other problems affecting the region. A local newspaper manager describes this process:

> We invited the mayors and the chiefs, union leaders, chambers of commerce, health professionals, etc., [to participate in the community summit] we tried to get a bigger cross section of the community as possible. We were not successful to attract this time First Nations people, that continues to be a problem, First Nations and non-natives exist within the region, they bump up against each other but they don't work together [FF.NP1].

Although important, these efforts have been episodic initiatives that so far have not engaged the community to explore and address the historical, structural and cultural roots of this conflict. Figure 6.2 illustrates the importance to start a process oriented to conflict transformation, an approach that indeed will address the structural and cultural roots of conflicts affecting communities in the RRD. A process of conflict transformation, based on an enabling infrastructure is described in more detail in Chapter 8, and will assist facilitation of recovery of tolerance and trust among local actors

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and communities. Tolerance and trust, in turn, facilitate the improvement of connectivity among actors and increase collective action to address common problems in the Region such as the absence of a common vision, the need to a regional planning perspective and the reconnection of local communities. Conducting collective actions to solve common challenges is based on a common understanding and shared knowledge that facilitates learning and further

Figure 6.2 Tolerance and Trust

strengthening of community cohesiveness. Improved levels of community cohesiveness encourage and facilitate the process of conflict transformation, closing this process in a virtuous cycle. This feedback loop can work in the opposite way, which is the current situation in the RRD, emerging instead as a vicious circle or negative feedback loop. Key elements to approach positive and negative feedback loops are detailed in chapter 8.
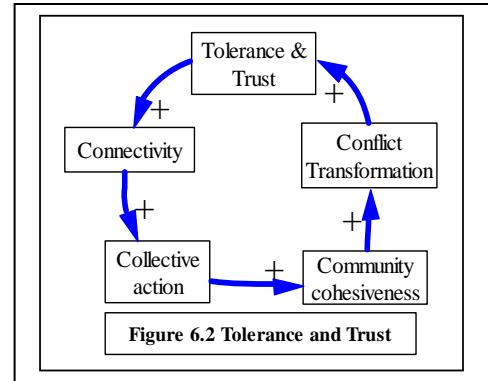
b) Quality of Place: Chapter 5 highlighted the importance of identifying and working on enhancement of places/networks as they are key spaces that stimulate and enhance community learning, and well-being. Although towns, with the support of AEDC and RRFDC have been working on the improvement of Main Street and marinas, only the case of Emo stands out. Other places have been glossed over or not given the attention they deserve. Services linked to places/networks can be suspended as a result of budget shrinkage or the common prioritization of physical infrastructure. A local Chief Executive Officer describes this situation:

> You have to accept decline sooner or later and start to restructure the services, here are the services we need to increase and here are the services we have to start decrease investment. Users of much of our public facilities went down, less fees collected, golf course, library and museum are not getting used as they use to, so recreation facilities can be an issue in the future, [we have to decide] which one we are going to keep and which not [A.M2].

I argue that it is more productive to follow an approach that looks for the identification of places/networks as it works in a twofold way (Figure 6.3). First it enhances the well being of the local community as a primarily objective. Second, it enhances local community networks. Together these elements improve the general environment in the community and the region, not only physically but also socially which may produce a warm and welcoming environment for new migrants and visitors. In

Figure 6.3 Quality of Place

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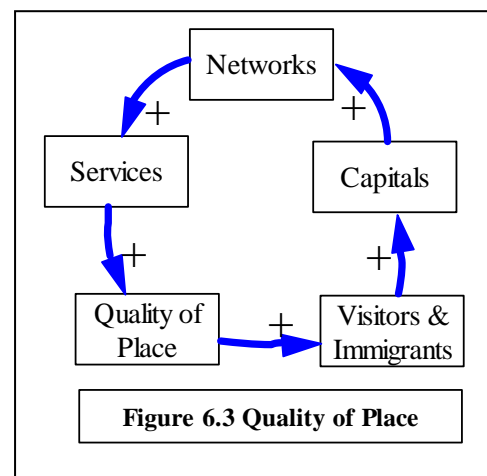
this way, enhanced quality of place will attract new visitors and migrants which in turn will stimulate the accumulation of diverse capitals in the community.

c) Technology: Technology is at the heart of commodity cycles, and recognized as one of the key engines of change in territorial patterns of development (see section 2.3.2). More than that, this is a factor with diverse and complex interconnections with the economic, social, environmental and political dimensions. In general there is a lack of coordinated strategies oriented to consolidate technological initiatives and advance towards the so called knowledge economy. An additional element playing an important role in this cycle is the limited availability of sources for human capital formation. Seven Generations Institute and Confederation College are advancing initiatives that demand a more structured support from local and provincial governments. Figure 6.4 describes the state of the technological cycle in the RRD.

Figure 6.4 State of the Technological Cycle in the RRD

Figure 6.4 Technology and Human Capital Cycle
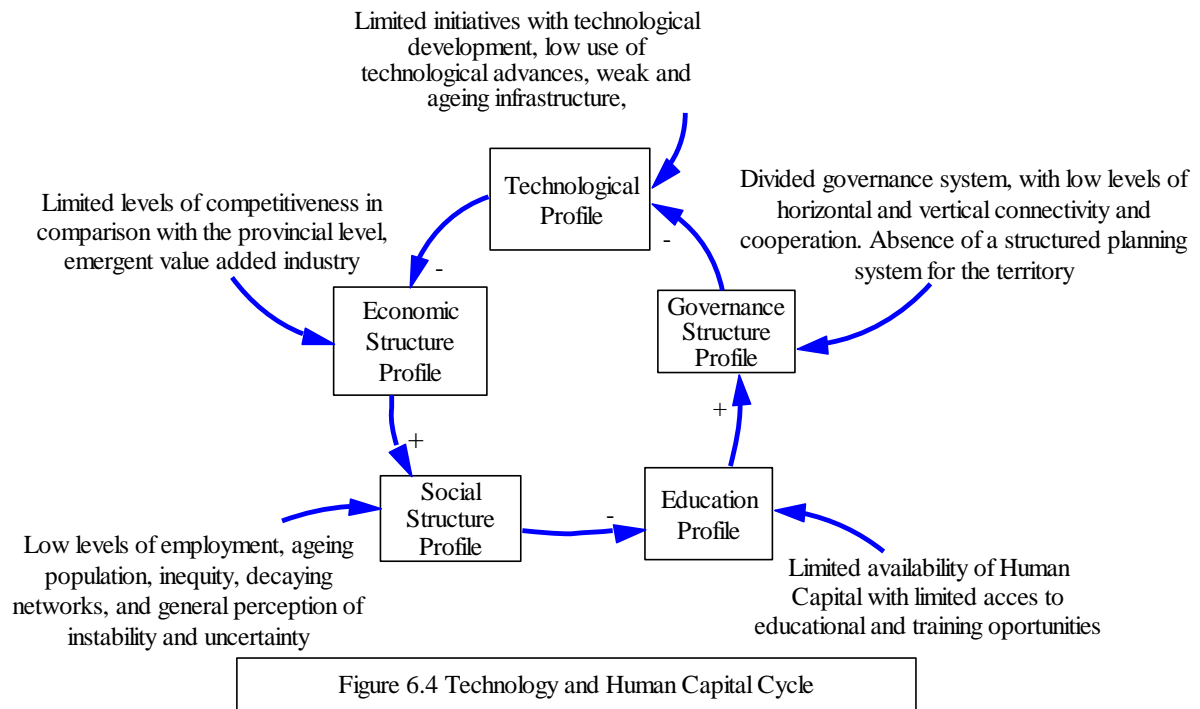
This Figure illustrates the technological cycle in the RRD and its links with human capital, governance, and networks, which influence the regional economic performance. Source: Information collected through focus groups (Summer, 2008).

This reinforcing cycle is propelled by the absence of a structured planning system that orients the vision and processes for rural regional development in the RRD. The absence of a regional planning system, in combination with a divided governance system, and contextual factors related to services and infrastructure, hinder initiatives based on technological development. Consequently they affect competitiveness of this region in relation to the rest of the province. In consequence,

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diversification of local industries is affected and employment continues to depend on forestry. Limited diversification translates into low levels of employment which, combined with decaying networks, conflicts and an ageing population produce a generalized perception of uncertainty. This perception is not conducive to working and planning for the long term or regionally, and it limits the availability of human capital, which in aggregated form negatively affects the regional governance system, closing this feedback loop.

As a result, in a rural context in decline, technology is not only a key economic factor, but also a strategic factor for sustainable regional development. In the RRD, some local leaders recognize the importance of technology and the role it plays in the process of rural development. A local economic development leader explains the closure of the mines in Atikokan from this perspective:

> The mine here had iron for 100 years but was hematite and technology switched to taconite, so the main reason for the closure of this mine was technological. Technology found the way to use the low grade iron ore but to make a better product, and government policy supported mining companies in Minnesota for many years to reconvert and continue with this new technology. So when they were running out of ore they improved the technology and that switch affected the mines in Atikokan [A.DC4].

This understanding of the role of technology in the process of development is prompting an endogenous regional response that materialized in an interesting group of technology based initiatives (See section 7.2.2).

6.3 Complexity and Planning: Key Elements from Systems Thinking

Figure 6.1 models the background against which the regional system evolves. In this section I apply some pertinent elements from systems theory (see section 2.4) to the problem of decline in the RRD in order to identify some practical approaches (Jacobs, 2000; Kay, Boyle, Regier, & Francis, 1999; Walker & Salt, 2006).

1. Interdependence: One of the most important aspects that network analysis in Chapter 5 and systems dynamics in this chapter reflect is the importance of interdependence. A social system in decline can adapt and evolve to create new order and coherence which is one of the key features of complexity (Kauffman, 1995). To cope with decline, communities need to understand and emphasise the type of relationships and interdependences they have between diverse actors in the region. Interdependence works at different scales - from individual actors, to institutions and organizations, communities (sub-systems), the region (the system), the province and the global level.

2. Connectivity: Connectivity among the communities in the region is dependent on the diversity, density, intensity and quality of interactions among the actors. Communities in the RRD have a common history and are connected through diverse links. However, they need to recreate their pool of connectivity by recognizing, renovating, and creating new links, and by discouraging the retention of obsolete structures. These are based, among others, on strong cliques, advance specializations and narrow functional boundaries. These structures have been affected by negative historical processes that remain today (legacy from residential schools, a culture for competition instead of collaboration, etc.).

3. Diversity and Quality of Connectivity: Diversity of ties within and among communities in the RRD needs to be enhanced. This process can be conducted by analyzing the amount of ties within the networks, while their quality can be explored by analyzing the nature of formal and informal ties. Although formal connectivity among municipalities and reserves is low, informal connectivity is diverse and permanent. Formal connectivity is provided through political institutions such as the RRD Municipal Association, participation in administrative bodies such as RRD Future Development Corporations, projects for economic development, etc. Informal connectivity is illustrated in Chapter 5, and represents the diverse flows of resources and capitals among various actors. Informal connectivity between towns and reserves is diverse and reflected in the frequent intermarriage between members of different ethnic groups, Pow Wows, fairs, fundraising activities, etc.

Improving diversity and quality of connectivity can enhance collective action and a sense of belonging to the region, producing new experiences, and creating new forms of work which gradually can be translated to the macro level (structure) in the region. This is the start of an emergent balance for the RRD. Two important actions need to be undertaken in this regard: a) The promotion and encouragement of both a variety of weak ties and networking among communities within the region at the micro (agency) level (i.e. among organizations, individuals, institutions, reservations and towns); and b) The recognition of current emergent structures, as the tangible indicators of self organizing properties of the system, to identify the areas in which the region has a capacity to change and adapt and, based on this experience, promote the creation of new and more efficient emergent structures. Both activities must be promoted simultaneously, because diversity as the outcome of the first action satisfies the requisite of variety, required for efficient emergence of structures to occur. These activities will not have an impact in the short run; hence planning offices and local leaders must consider long-term horizons.

4. Intensity and Density of Connectivity: This feature can be explored by identifying strong and weak ties among the various actors participating in the social subsystems through diverse social networks (see Chapter 5). In the RRD it is common to find strong bonds among actors participating in particular networks, which facilitates the implementation of new initiatives, sharing of information, and collective action. Discussions held during the winter via internet, farm tours in the summer, and the fall fair in Emo, among other forms of interaction, show that the farming community has the highest level of connectivity among the industrial networks in the area. Close family ties, socio-cultural activities, Pow Wows, political bodies (e.g. the tribal council) and even their concentration in Reserves also show a different but similarly high form of connectivity in the First Nations reserves.

On the contrary, low levels of public participation in public decision making, and in the construction of official plans (see Chapter 7) suggest a limited connectivity between politicians and their constituencies. Also, dispersed initiatives, absence of a common vision and goals, and low levels of connectivity among organizations are factors that reflect low levels of intensity and density of connectivity in the tourism and forestry network. These sectors are primarily looking for answers outside their networks or explaining their situation merely as the impact of external factors. Also low levels of connectivity are influencing cohesiveness in these sectors and impeding sharing of information, knowledge and learning, which in general affects their level of innovativeness.

5. Co-Evolution: Features of connectivity affect not only individual actors within the network and subsystem but also related actors within the regional system. The way each actor influences and is influenced by all other related actors and forces of change in the regional system is part of the process of co-evolution. Kauffman describes co-evolution as a process occurring in a landscape where the "*adaptive moves*" of each species will alter the features of that landscape for its neighbours (Kauffman, 1995). A social ecosystem can be understood as the interdependence of all actors that interact within it. It provides the necessary cohesion that supports life (social, economic, political and biological). A community is a social ecosystem, because it provides mutual support and sustenance for its members (Mittleton, 2003), but their components or actors can change in a positive way (e.g. enhancing cooperation and transforming conflicts) and in a negative way (e.g. when they cease to cooperate and conflicts cause deterioration). Consequently, actors can positively or negatively transform community contexts affecting their neighbours in a similar way.

This process can be illustrated using the process of change of two interconnected groups of actors, the mill in Fort Frances and the farming community. In trying to adapt to the changing international pulp and paper markets, the mill in Fort Frances enacted diverse strategies included

shrinking the labour force, and increasing efficiency in the use of technology. In this process, the mill is also evolving towards the production of fine papers and the implementation of new biofuel technologies, which represent more complex solutions pursued with the support of the local elites, the municipality and the provincial government. This process of change has impacted the farming community in two ways. First, the shrinking labour force represents fewer possibilities of employment for them. Second, the "adaptive move" towards bioenergy generated an agreement between the mill and the farming community to supply grass for the boiler. If successful, the farming community will have a new source of income and the relationship between these two coevolving actors will advance in a new direction. In turn the farming community is also coevolving in the sense that they continue providing labour and timber for the mill, but now they are participating in an initiative as partners with the mill. On the other hand, the farming community is turning towards agriculture initiatives based on new principles such as organic farming, and region-of-origin labelling.

These processes represent a distinctive reintroduction and combination of cultural, ecological and social capital into the process of agricultural production and within the framework of agricultural network. These processes can potentially reduce dependency upon external financial capital and highlights the importance of combinations of social, natural and cultural capitals as key assets for new forms of coordination of production.

6. History: History also plays a key role in the process of decline (Force, Machlis, & Zhang, 2000). When historical factors (e.g. a government intervention, a fire) impact the social system and move it away from equilibrium, new forms of working and organization may be adopted. For example, after the mine closure in Atikokan actors at higher levels of the government system intervened to provide help, support, transform and create a new order, which switched from mining to forestry dependency. As a result, if this new order to address the problem of decline is artificially created through top-down initiatives, instead of created through endogenous processes, with time the support needed will grow. As a result, actors involved at the local level of the system will have their self-organizing abilities curtailed, producing an additional but different type of dependency. This time it is a dependency on the policy designers (Mittleton, 2003; Kauffman, 1995). This is an institutional type of dependency in the form of paternalism that hinders communities' capacity to create a new framework to facilitate and support new relationships and forms of connectivity, necessary to cope with decline. Nevertheless, interventions from upper levels of government are needed, the question is how to use this support in a way that addresses the complexity of decline, facilitates emergent patterns of behaviour and reconnect regional networks to start a more sustainable process of development. In this way, forms of dependency (political or institutional, and natural resource

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dependency) are historically and socially created; they hinder evolution of endogenous capacities, connectivity and adaptability.

7. Learning: Learning is an emergent property based on the interaction among individuals and organizations through diverse networks, which facilitates the creation of new patterns of thought at the local and regional level. If learning leads to new behaviours, then the organization has adapted and evolved (Mittleton,2003; Kauffman, 1995). As a result learning is a *sine qua non* condition for actors' evolution. Decaying networks throughout the RRD have in common a limited interaction with other actors and networks in the region. In some cases, chapters of the same organization in the region do not communicate among themselves. This limited interaction hinders new experiences and learning, severely limiting the capacity to adapt and change. Hence, actors in a region in decline need to actively promote connectivity and learning for generation of new knowledge. Learning must not to be confused with training, or the creation or renovation of human capital. Learning in this context implies the consolidation of new insights about the future of the region and about understanding the complex mechanism of decline, which will lead to new knowledge about the region. This new knowledge, based on the combination of available capitals and experiences, must be shared to create new collaborative initiatives that in turn will produce further learning and knowledge.

In the RRD, the combination of features of history and ethnicity represents a powerful force that has yet to be utilized. The history of the region has seen the parallel capitalization of knowledge and experience by both First Nations and European cultures. The combination of that knowledge, through the creation of enabling infrastructures and conflict transformation, can produce an emergent force that the region has not witnessed since the time of European colonization.

6.4 Conclusions

This chapter included a description of a qualitative model of decline for the RRD, its feedback loops and key elements from systems thinking to approach decline. This description has confirmed that the RRD as a CESS is currently in crisis. This crisis has technological, ecological, economic, political and cultural causes interacting through a complex and dynamic system of feedbacks. This analysis has also made clear that the future development of the society in the RRD is not pre-determined, but if actual trends do not change fundamentally, the region's social system can breakdown. In other words, rural regions have not been abandoned to some kind of pre-determined fate, as suggested by predictions based on "size type" indicators, because there are parallel and alternative evolutionary developments that the local society can harness and orient. In the words of

Wallerstein, we can see decline as a structural crisis of the regional society's historical process of development:

> ...This structural crisis leads us into a dark period of struggle over what kind of system will succeed the existing one. We can think of this as a bifurcation, and therefore the beginning of a chaotic period, within which no one can predict the outcome, which is inherently indeterminate. There will be a new structure, a new order, but it may be either better or worse than the existing one. It depends on what we all do in the period of acute struggle and how clearly we understand the forces at work (1999, p. 1).

The analysis of the Region from the perspective of complex dynamic systems facilitated the understanding of these forces at work. In summary, when applied to a region, key elements suggested by the logic of complex evolving systems include:

- The region as a complex evolving social system - CESS is a group of nested communities (social subsystems) integrated by diverse actors (components) that reflect several characteristics proper of complex systems.

- Regional planners can promote cooperation among the actors in the region to work with these characteristics and channel their positive effects, rather than block them or ignore them. Ignoring them would primarily facilitate continuation of negative impacts and decline.

- Those characteristics are closely related, and we need to approach the region as a system and understand it in all its dimensions and properties. Insisting only on economic solutions will only partially affect the process of decline or produce increasing negative effects.

- This research recognizes the importance and adopts the figure of 'enabling environments' based on the aggregation of social, cultural (ethnicity), and technological experience that will facilitate learning and the generation and sharing of new knowledge.

- Connectivity as well as emergence also can have a down side; there can be breakdowns and less efficient moments.

- Decline is a complex process with multiple interconnected causes, effects and feedbacks. Available readings in the literature and proposed plans for the Region from the Provincial level are not recognizing these important features.

Diverse feedback loops illustrated specific dynamics of decline. The technology cycle is particularly important as it is a central force of commodity cycles. From the perspective of this cycle, one can see not only the role of technology in the process of decline, but also a need for a fundamental change in the way that we need to approach the economic dimension and its interface with the process of decline. The technology cycle suggests that the economic dimension is more a system of relationships based on the cooperation of participant actors, and on their collective and individual action capacity. Hence, the territorial economy needs to be approached as a relational system, in which no commercial relationships and non economic relational ties play a significant role.

Chapter 7. Evaluating Existing and Potential Responses in the RRD

7.1 Introduction

This chapter develops the fourth objective of this research, i.e. to identify and evaluate existing planning approaches to decline, local responses, initiatives and forms of adaptation to decline in the RRD. It describes the local-regional planning realm, and identifies diverse planning, organizational, and community obstacles to sustainable development. This research found that top down government initiatives for Northwestern Ontario frequently ignore the features of current municipal planning practice and community responses to decline.

As a result, government initiatives to address decline in the RRD and for the larger Northwestern Ontario from upper levels of government, are primarily top down initiatives that do not include the perspective of local organizations and communities. "Smart Growth Initiative for Northern Ontario" and the current "Growth Plan for Northern Ontario", both coincide on economic growth as the solution for current problems in the Region. For example, the recent reports of the "Smart Growth Panel for Northern Ontario" (2003), uncritically concur that rural communities' futures are just more growth based on: "G*rowth in population... growth in economic activity, and growth in household income.*" (Poulin, 2003, p. 7), and "*...P*romotion of economic growth in areas of slow (or negative) growth.*" (Witherspoon, 2003, p. 22). Together with the new initiative for a "Growth Plan for Northern Ontario", these documents neglect to discuss decline. In the contemporary public policy for Northern Ontario, decline is a taboo subject. These plans and government initiatives will face different obstacles during the process of implementation as a result of the disconnection with local realities and problems. This connection can be created through wider processes of public participation and interministerial coordination.

7.2 Formal Responses: Characteristics of the Current Planning Practice.

Formal responses to decline are analyzed in this section from the perspective of planning institutions and the responses of different communities in the RRD.

7.2.1 Formal and Informal Planning Institutions in the RRD

Formal Institutions

There are two formal planning processes happening in the RRD. One is the municipal planning process, dependent on the MMAH and conducted through municipal official plans. The second, at a higher scale, is sectorial or ministerial planning, dependent on other ministries and

oriented to plan specific sectors and provide diverse services such as health, education, management of natural resources and economic development.

Municipal Official Plans. Three central absences characterize the municipal planning process in the RRD. One is the absence of local and regional formal planning institutions. Although all the municipalities in the RRD have an official plan that complies with the dictates of the Planning Act and the Provincial Policy Statement, including in some cases a planning committee, none of the municipalities in the RRD have a planning organization as part of the municipal structure, nor are there planning professionals in their staff. This happens as a result of the shrinking budgets, and limited municipal capacity. Nevertheless, the new Provincial Policy Statement has invested municipalities with all the planning powers and responsibilities regardless of their size. Moreover, there is no regional planning institution that can address planning and development issues. A local leader describes this gap:

> Each municipality plan on its own; from the planning point of view there is a big gap, you have nine plans, nine governments, and nine individual visions and not common authority that stitches all that together [FF.DC2].

Second absence is of spaces, motivation and dynamics for public participation. Although the Planning Act and the Provincial Policy Statement emphasize the importance of public participation, municipalities in the RRD usually limit themselves to formally meet the terms by organizing an open house, which suggests that public participation is used only as a tool to validate decisions previously made. This problem is noticeable in the public consultation for the implementation of the biomass energy generator in Fort Frances, an $84 million dollar project, located within town and in front of the local hospital. A municipal officer describes this process:

> Public consultation for the boiler [the biomass energy generator] included two open houses with Abitibi so people could have the opportunity to make enough questions. We did that because we have public meetings in conjunction with council meetings, so the last public consultation for this project lasted 10 minutes. There were no objections [FF. M3].

Finally, there is an absence of awareness of the existence and importance of official plans. Interviewees not linked with municipal governments consistently answered that they had no clear idea of the official plan. Also, planning is seen as a formality, not as a tool that can guide communities' future, connect people to places, increase connectivity within and among communities, and shape a common future. A municipal officer describes how the official plan is managed:

> Planning is not something that you deal with on a regular basis, or that you see all the time, unless something comes down and you have to look up, e.g. request a severance, as far as I am concern is there [the plan] if everyone wants to look at it but I don't have time to pull it out every few months and review it [S.M2].

Plans are very much needed to keep and diffuse the history of the region as a place. The plan is the only territorially based resource to deal with unity of place. As Neuman states: "W*e need to better understand the connection of people to place to plan, if we want plans to respond to the needs of residents rather than to regulations. P.214*" (Neuman, 1998).

Municipal official plans are a weak planning institution that results from a lack of local and regional vision to face increasing forces of change that are rapidly transforming the RRD in unwanted ways and disrupting the planning cycle. Planning is understood as an inflexible institution conformed by a set of rules imposed by upper levels of government, and detached from the regional dynamics. Although plans are available, they are not used and even local leaders are unfamiliar of their contents and proposals. A municipal officer and a councillor describe this situation:

> Yes, plans are there. They are more a formality. They are just cut and paste plans…in this area the same consultant did them all, so you can see the cut and paste from one plan to the other…the players at the table don't know what to do with these tools [B-LW. M2].

> I think we are basically trying to get people use to the idea that there is such an animal and that there is a bylaw and that this have to be respected, that is the best we can do at this stage of the game. The only thing we can do is totally revamp it and create new strategies, the time for that may be coming, but presently is not happening. So presently we are acknowledging the fact that we have one, because let's face it, very often people have an Official Plan and councillors don't even have a clue about what the thing is about [LW. M2].

These gaps are directly affecting local communities and the efficacy of local responses to decline process. An assessment of the 10 municipal plans (See Appendix 2) in the RRD suggests the next relevant observations:

1) *A disconnection between the Region and the Official Plans.* Municipal Plans were designed at different times, with a predominantly limited public participation, and predetermined rules, what makes them a collection of proposals, neither connected throughout the region, nor recognizing local realities and forces of change affecting them (See Appendix 2), an economic development officer and a Chief Executive Officer describe this process:

> Official plans are built by municipalities under the direction of the province, under their guidelines, so the plan was built to their specifications, it wasn't build by the local people to make things happen. Somebody already has the blueprint for the plan and you only fill in the boxes, that is why they don't work [E.DC1].

> Is because the Ministry provides you with a sort of cookie cutter plan! Most communities did it [the Official Plan] because it is a requirement, and communities go through without believing in the system or having some value to them [LW. M2].

As a result plans include diverse ideas and projects but simultaneously there is an absence of a common link among these plans for the region as a whole. Besides the official plans, some

municipalities have hired consultants to produce diverse sectorial plans, usually approved but not officially recognized. For example Fort Frances has five different and disconnected plans: the Official Plan, Reinventing Fort Frances, Fort Frances Heritage Tourism Plan, the Transportation Strategic Plan, and the Economic Development Strategic Plan. A local leader explains this situation:

> What happens is that the council receives these documents for information. They don't take the decision to act upon any of those documents, because they don't see any political capital represented in those documents to move forward and makes things happening. They think that they were elected to know what is in our best interest, so they don't want other people telling us what to do, or how to do it. So all those plans have become dust collectors [FF. LN1].

Although official plans are not used, a fact reflected in a complete absence of monitoring and evaluation processes, in some Towns by-laws are strictly followed to control growth, which is contradictory in communities facing decline:

> Neither an architect nor an engineer can open a business here because there is no permitted area where they can open an office. Understanding of the Official Plan is that if there is not a use named in the zoning bylaw that cannot exist in this town. In this crisis the town should be more open for business and welcome initiatives, what you find here is an immediate response saying no, you can't do it [FF. NP1].

In general Official Plans in the RRD lack one of key benefits of a good comprehensive plan, which also prevents a plan from being one more of the many documents collecting dust in municipal archives, and that is the capacity to create and communicate a vision for the future in a way that unites, and inspires the community to implement it (McClendon, 2003).

2) *A lack of connection between the plans and local actors.* All plans in the RRD include a basic analysis of demographics, urban development patterns, goals, and propose some solutions for local issues. However, plans are presented as the goal in itself, failing to recognize that plans are more than analysis, to put the communities in the regional context, and to involve the vital connection between the plan and local actors (individuals and organizations) who would implement the plans. A local farmer describes this lack of connection:

> *Yes, I can tell you how far you can put your house from the curb but not how to retain our youth* [FG.3].

Furthermore, all municipal plans in the region lack of a comprehensive analysis of the role of minorities in the Region, particularly First Nations, and fail to recognize the problem of decline as a regional structural problem. Regional analysis needs to be part of the plans, as a key element to identify the connectors with adjacent municipalities and reserves, create a solid and permanent communication process, promote learning from each other, and collaboratively create alternatives to current challenges. As part of this process additional gains may be perceived, as the latent conflicts

can be transformed into opportunities for cooperation (Hoch, Dalton, & So, 2000). Connections among these plans need to be built, as well as a common institution that would continue the planning process at the regional scale.

3) *Focus on the economy glosses over the importance of the Regional structure:* There is a prevalent focus in the official plans on the analysis of the economic dimension. Furthermore, there is neither mention of the three central elements are the core of this research - capitals, conflicts, and networks, - nor consistent consideration of the sustainability paradigm. Particularly, official plans do not address the importance of the social structure and the value of social networks, as an important asset represented in diverse local and regional organizations. In summary, region, institutions, networks, agency and structure, are strategic variables of the planning process, recognized as essential conditions in contemporary planning theory and practice (see section 2.4), not currently addressed by the formal planning institutions in the Region.

4) *A lack of consistency between economic development efforts and the official plan.* Diverse forms of capital, and the way they are used, influence the growth process in towns and the region and, as a result, represent a central chapter within the planning process (Daniels, Keller, Lapping & Segedy, 2007). However, economic considerations dominate the official plans in the region. Future Development Corporations are also supporting the construction of strategic plans in municipalities, and emphasizing in the economic dimension. Although this is an important activity, it is necessary to improve this process with a more clear articulation between strategic and official plans, so as to promote an integral view of local and regional development. A municipal officer describes the connection between these plans:

> I think there is no an official connection. Just both sides are aware of issues. Both are tied loosely. Because one is economic, the other is doing the commercial, that is what they need to know, they don't care about the details [A. M.3].

Sectorial Planning. As described in section 3.3, the RRD is subject to different sectorial approaches to regional development, which causes MNR, MNDM, Industry Canada, and other ministries to differ in their planning approaches for the region (Government of Canada, 2005, , 2006b, , 2006c, , 2008a). As a result of globalizing pressures, the changing and shrinking role of the government, and the influence of other forces of change, Federal and Provincial governments are promoting a partnership approach to service provision and planning. As a result, diverse federal and provincial agencies in the region are starting to provide services and develop diverse strategies from a decentralized perspective and taking into account the important role of local communities. Some of these services are managed from a regional perspective, such as health, environmental management,

and education. However, there is little coordination of planning and purpose among these agencies. The provision of services remains within the mandate of each ministry or government agency, and the coordination of integrated strategies for the region, oriented to address decline, still needs to be constructed. A ministry officer describes this problem in the environmental sector:

> I don't see an integrated or coordinated force, the provincial government is trying to do that more in a regular basis, in the MNR we are starting to managing fisheries in a regional ecological basis, also we have established fisher management zones and councils, were we can take a more integrated approach to regulations, inventory and planning, so that is an example of cooperative wildlife management [FF. Ministry2].

There is also no connection between the municipal plans and ministerial plans. None of the municipal official plans includes a reference about the need or description of coordinated strategies between municipalities and ministries. As a result, there is an important planning gap at the horizontal level within and among municipalities. There is also a vertical gap in coordination of strategies and planning processes between municipal and ministerial agencies, and among ministries, to approach the planning process at a regional scale for the RRD. In a nutshell, planning for the region is conducted in silos, and on a sectorial basis.

Integrated, intersectorial approaches to plan for regional development as well as harmonization of strategies at different levels of government are needed in the RRD. An integrated approach means to address the economic, environmental and social dimensions of sustainable regional development and to facilitate the engagement of diverse actors and networks in the region in a cooperative regional planning process. Such approach to rural development for a region in decline demands that communities and government institutions go further than traditional sectorial approaches. Four key elements have been suggested to initiate an integrated approach for rural territorial development. The valorization of rural assets, coordination of different subsectors of the regional economy (e.g. ecotourism, value added manufacturing, information and communications technology and other technological developments.), incentivize investments from upper levels of government, and most important, create a coordinated approach between key government players to promote a common plan for the rural development in the RRD (Marsden, 2003; OECD, 2002; VanDepoele, 2002).

A coordinated approach for rural development and improvement of connectivity among actors in the planning process may be initiated through collective discussion and selection of a theme or vision for rural development (See section 8.4) and the identification of common qualities of desired futures and graduate specification of the details.

Informal Institutions

The above inflexibility of the planning process and the absence of its functional role as the map for community development facilitate the emergence of informal planning institutions that are reflected in diverse phenomena:

a) Policies of the "one size fits all" type, work as an obstacle to formal institutions and cause the creation of parallel informal sets of rules that respond to the needs of the municipality and its population. For example, according to interviewees, the MMAH takes two to three years to respond to plan updates, forcing local officials to make decisions and approvals not knowing the final answer and recommendations from this Ministry. A local public servant describes this situation:

> To update the plans, we follow the provincial rules and things like that. We primarily update the zoning. And then we submit it to the Ministry. It takes forever. We waited for over a year on the last one, and finally the council decided to pass it and stop waiting, and still have not heard from them…They put in place this 'one window', but that became like a garbage disposal were you don't get anything back [G. M].

b) *The coffee councils*: The need to discuss the matters of municipal and regional development, limited involvement of local actors in planning dynamics, and the weakness of formal planning institutions have led people to develop their own informal spaces. Across the region exists an institution that is called the "Coffee Councils." These are impromptu meetings in public or private spaces, in which citizens analyze and criticize government initiatives. Usually without the participation of elected officials, these meetings are recognized for the strong criticism of public administration. This institution doesn't have salient political power, in the sense of Flyvbjerg (2001), but coffee councils have become an efficient way that indirectly affects formal decision making, as described by local leaders:

> Since this crisis started, there is a lot of criticism on how the municipal level is handling the situation and handling its business. So I think it primarily works at an informal level coffee shop to coffee shop, you know…[A. NP1].

> The worse thing that have ever happens to us are shadow councils, they meet in Tim Hortons, and they discuss there how this community should be run and then we get the feedback from the coffee shops, probably they retire too early and they should have another job rather than go to coffee shops!, but on the other hand that shows that people are concerned [FF. MO1].

Coffee Councils in the RRD are nothing else than an expression of the absence of channels for public participation and are indicative of the willingness of local actors to participate in the planning process.

c) *Boosterism*: The regional vision and potential initiatives for a region wide planning process face the obstacle of the competitive mindset of politicians. Politicians prioritize the construction of a competitive advantage often using "boosterist" activities to justify the importance of their municipalities as a means for attracting new projects or industries. These positions generally emphasize local attributes considered important for the presence, or attraction of new projects and industries that will enhance local economic development (Knight, 1998), which can be observed in the following interview with a local politician:

> We [Fort Frances] have the infrastructure, and the other communities don't have as much as we do. We are kind of a of big brother. So you are always the big guy and sometimes other communities get upset with you. There was an initiative recently announced by the province, to implement a bus service to take patients to the hospitals. They said how come the Province is putting this in Fort Frances? I said, you know is because it make sense, we are in the middle of the district, we have the largest population and we have the infrastructure to keep it [FF.M5].

The focus is placed on the town, hindering the engagement of site specific characteristics within the broader regional context.

d) *Competitiveness*: The prevailing strategy to attract industries, and the competition for limited federal and provincial funds, are continually fostering competition among municipalities. The so-called local competitive advantage has been reached at the expense of their neighbours, as illustrated by the devastating effect of big box retail development in Fort Frances on Main Street and retail sector of all communities in the RRD. As a result of this process, a permanent tension is evident among communities as a result of this competition for funds and industries. This competition also hinders the possibility to create a collaborative approach for regional development and to focus on a regional planning process that equitably distribute the burdens and the benefits of socio-economic development and environmental protection, which also would more accurately reflect and respond to the increasing challenges of "*ecological balance and economic interdependence*" (Hoch, Dalton, & So, 2000). A local mayor and a ministry officer explain this problem:

> We have worked together before, but it seems to me that what prevails is the local individual interest, we have different agendas and we try to look after that. For example the population in the Rainy River [Town] is shrinking and their infrastructure is ageing, so why they would be interested to invest money in something that is going to benefit Fort Frances? That is because towns come with their own agenda to the meetings [municipal association meetings] [LV.M1].

> I think the fact that we are competing against each other [is a key obstacle to work together regionally], and that is because we have to start working together and sell the world our produce collectively, instead of fighting with each other about the shrinking resources to try to build those resources up [FF.Ministry1].

7.2.2 Community Responses to Decline

Local economic development literature (Filion, 1998; Schaeffer & Loveridge, 2000; Sharp, Agnitsch, Ryan, & Flora, 2002; Troughton, 1990) generally agrees on three main strategies used by urban and rural communities. All three strategies where identified in the RRD. One is industrial recruitment where local leaders lobby public or private agencies to attract a new industry or service or retain an existing one, such as a government agency, or facility. Atikokanites were successful in the past attracting new industries, parallel to the two iron mines closure in 1979-1980, community leaders managed to attract a new power generating station, a particle-board plant, rebuilt and expanded the hospital, a new office of MNR, and improved recreational infrastructure (Paulson, 1993). However, local leaders recognize that this strategy has limits as the government support is shrinking along with the possibility to relocate new big industries in the area.

The second strategy is the creation of services in the absence of public or private permanent support. For example, different forms of collective action in the region facilitate permanent or temporary solutions to specific problems, e.g. fundraising to pay for highly specialized medical treatments overseas, food banks, and working centers that help connect people with jobs, a shared official building inspector etc.

The third strategy, regarded as a more sustainable form of local economic development, consists in the creation of new structures and forms of endogenous work. Such forms of action demand ingenuity and a radical change from the perception of the region as a site of solely primary production towards a search for alternative social and economic development alternatives. As a result this form is the most difficult as it demands changes not only in the social structure but also in the institutional behaviour from a reactive to a proactive form. However there are at least three groups of initiatives in the RRD that can be considered part of this strategy and represent important windows of opportunity for the creation of a more sustainable path of development for the Region: a) Small value added manufacturing: includes examples such as Manitou Forest Products, and Gingrich Wood Products, both actively marketing their products and targeting niche markets with specialized and value added products; b) Agriculture: includes trends towards organic production, value added and more important the first steps towards brand agriculture, as a general strategy that identifies, cultivates and incorporates local assets (including natural, historical, cultural and human resources) for the development of products unique to the RRD; and c) Technological development: includes telecommunications, biotechnology and renewable energy initiatives.

Technological development is particularly important, although the strategies in this field remain disconnected and the presence of a feedback loop (See section 6.1) slows down local efforts to advance in this regard. Five important projects are nevertheless in process of construction. One is the connection of the broadband cell-phone network. The second is the construction of the new biomass energy generator in the Fort Frances mill. The third is linked to the coal-fired power plant generator in Atikokan, which is switching to a biomass burning plant. This project is connected with a new wood pellet production plant project in which Atikokan-area First Nations will also participate. The fourth is an initiative of the Rainy River First Nations, who are conducting a feasibility project for the implementation of a wind power generation facility. Finally, the new library in Fort Frances includes the creation of a complementary technology center to support local businesses. Economic development officers and some municipal officers reflect on the importance of this sector:

> [With the new library] we can have a delivery mechanism of technology for small businesses and linked with Thunder Bay innovation center. This also can be a new form of education for our communities, all of them have libraries, but municipalities are trapped because they don't have a lot of money to develop technology initiatives, so this is a regional initiative that can be develop through libraries [FF.M4].

> My vision for Atikokan is telecommunications first, diversification, and now a step towards technology. Atikokan [can be] a technological base for developing applied research in diverse initiatives. The government have to try policies beyond the lab models before implementing the policies. We called that technology research. For example in carbon emissions we can do research in our station [OPG], and test there diverse technologies for diverse facilities like hospitals, fabrics, etc. [A. FDC2].

These projects are an important starting point, since they represent the consolidation of a new sector with important linkages with the emergent value-added industry and the potential projects in mining. This third strategy can also be seen as an endogenous form of rural development initiatives. To foster this type of endogenous and sustainable forms of response to decline, the Region needs new policies and government initiatives such as enhancing Future Development Corporations in the Area, encouraging cooperative economic and social initiatives between Towns and First Nations reserves, and facilitating the creation of RRD-Universities partnerships.

To facilitate an increasing positioning of the above strategies, and to complement them with environmental and social strategies to advance in the process of creation of a sustainable development process, the RRD needs to overcome several obstacles that impede the emergence of new structures and forms of work, based on a proactive and collaborative approach to rural development.

7.3 Obstacles to Sustainable Development in the RRD: Metaphors to Explain Change

Previous sections showed how the RRD has a capacity to react to shocks that threaten its socio-economic wellbeing. Nevertheless, this capacity has not been completely developed and the region continues in a transition between decline of the mono-industrial type of regional development, and an important potential for more sustainable development. This limited capacity to respond to decline is influenced by uncertainty and instability in the primary sector (Krannich & Luloff, 1991), which produces cumulative effects that, in combination with decaying social networks, conflicts and declining human and social capital, limit the rural communities capacities to react to challenges and issues of decline, and to produce the necessary collective action to stimulate desirable change. In this section I explore additional ecological, political economy and psychological factors that also work as obstacles to sustainable development in the RRD.

7.3.1 Learning and Interaction

As a result of permanent booms and bust cycles, communities in the RRD have developed different attitudes to decline, some of which impede interaction and learning from the past. They include denial, indifference, and sense of unavoidability. People notice the economic crisis, network decay, social conflicts, and the effects of diverse forces of change (e.g. restructuring industries) but these attitudes are impeding local actors to learn from past experiences, and capitalizing on that knowledge. Only when mills or factories close do politicians and local leaders take the initiative to try to find a new replacement industry or they try other formulas that worked in the past. This reactive approach keeps local leaders too busy responding to immediate issues such as infrastructure repair, local conflicts, and attending to a myriad of boards and committees. This hyperactivity is also a form of denial that impedes analyzing the problem of decline from an integrated perspective. A school principal reflects on this problem:

> We are not learning from previous crises. We are repeating the same mistakes over and over and that is because we are not changing our structures. We cannot continue to be a resource based community, we are sending everything out, resources and people and nothing is coming back, that structure has to change [A. PS1].

7.3.2 The Extended Conservation Phase:

From a resilience theory perspective, vulnerability emerges from exposures to shocks, that also produces the capacity to react and change (Gallopin, 2002). Hence, by extending the life of current forestry industry, i.e. by extending the conservation or K phase of the adaptive cycle (see section 2.4.3) suggested by Holling and Gunderson (2002, p. 35), local elites and corporations

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negatively affect communities' resilience capacity. In the RRD, particularly in Atikokan and Fort Frances, private and public stakeholders are trying to prolong the growth phase of this industry through increasing efforts such as concessions to corporations (e.g. new subsidies) and more complex solutions (e.g. technological and financial measures). These strategies are always temporary solutions as commodity cycles will force a "lock-out" through innovations that disarticulate networks of the prevailing technology (Hassink, 2007; Homer-Dixon, 2007). This has produced three important economic, environmental and political effects. The economic effect is that a control of the labour market due to high wages paid in forestry makes attempts for diversification more difficult. A local economic development officer explains:

> You are talking to attract businesses here, but because you have the mill that affects the cost for any company that want to relocate here, because the higher wages. And that is one of the problems to bring new businesses here, the wage costs. So that is a huge effect, the standard is so high that it drives everything beneath it [FF. DC2].

The environmental effect is that decline of the forestry industry is also affecting the image of the region. Decline of the forestry industry is understood outside the region as decline of the region as a whole, which according to Friedrichs (1992:909) produces a social signal that prevents other industries from relocating to the Region.

Finally, the political effect refers to the high bargaining power that mining and forestry industrial elites have developed historically over local and provincial governments, which results from their influence over the local economy and the close ties with political elites. Local newspaper editors and chief executive officers agreed on this point:

> It is hard to resist the quick buck [laughing], whether those are the best things, is hard to take an objective look at it. It's hard when a big employer with 100 or more employed people says this is what we have to do. Is hard to step back and say I don't know if that is the good way to go. That is what makes us vulnerable. I am not going to say, no this is wrong. No, you are not going to turn down those 100 jobs. So there is an economic vulnerability factor [A. NP1].

> We take decisions thinking about the mill: Should I do that? Should we make this commitment? Because, what is going to happen with the mill? So everybody considers that. So, yeah, the mill is like sleeping in the same room with a 900 pound gorilla, like when they move the town feels it [FF.M2].

By applying this conservative strategy, local elites are extending the process of decline of the forestry network, and expanding its effects to the whole region, while postponing the potential for reorganization and renewal of the regional system. Diverse subsidies and investments oriented to postpone the decline of this industry have been too costly for the region, economically and socially. Changing the focus of these investments, however, could help the region to foster emergent initiatives and networks in the area and create new engines of prosperity and well being for the RRD.

7.3.3 Why Don't we Change?

After describing central issues of planning and obstacles to collectively work for sustainable development, the question remains: Why do people not react to and change this process? This research found three consistent answers to this question in the interviews and focus groups: "denial and reluctance to change", "reliance on government", and "decline leads to further decline" (FG: 1,2,3,4). Although these responses make intuitive sense, further exploration provides an alternative picture that not only helps to understand decline but also provides key elements to plan for decline.

Decline Leads to Further Decline

This research found further evidence of this assertion in two different but complementary processes. One is the diverse reinforcing cycles described in Chapter 7 and manifested through the socio-economic and physical structure of towns. For example, closure of industries represents lower levels of income for local people, who can invest less in their houses or need to leave the region. This increases in the market the number of houses with little appeal. The effect cascades outwards and drives down prices, affecting the image of the town to potential buyers, lowering prices even more, effecting the whole town and the quality of place.

The second process is reflected in the news about industry and retail closures in Atikokan and the Rainy River which have been erroneously interpreted in other communities as a result of the limited ties among communities and limited knowledge about the region and the process of decline. A chamber of commerce manager and a farmer describe the situation in these towns:

> If the mill closes down we have to ask what is the plan, because people will have to move out for jobs and businesses will close, the town will become a ghost town like Rainy River or Atikokan [FF. CC2].

> There [Rainy River] are only a couple of stores remaining in main street, you can imagine a tumble weed flying down, it is definitely a place where people go to retire, is not a young community anymore, is not a place where young couples go to raise children [D.F1].

A thesis known as "The Broken Windows Theory" (Wilson & Kelling, 1982) suggests an alternative insight to this problem, that signs of disorderly conduct like broken windows, litter and graffiti leads to more disorder and petty crime (Gladwell, 2002). Empirical evidence of this theory was recently provided by Keizer, Lindenberg, & Steg (2008), who concluded that increasing norm violation negatively influences conformity to other norms and rules. Signs of deterioration like graffiti or broken windows lead to other inappropriate behaviour, which in turn results in the inhibition of other norms. As a result, once disorder has spread, fixing the broken window or

removing the graffiti no longer suffices. As a result, effects of decline spread beyond social norms, weaken institutions and involve the psychological dimension of people, as a self-reinforcing factor.

The metaphor of broken windows represents an important message for policy makers in declining communities. Industry closures and concentration of services are producing a growing process of disinvestment in towns, increasing the number of places with abandoned buildings along the highway and towns, graffiti, closed retail stores etc. This phenomenon of "broken windows" negatively affects the quality of place across the region and can lead to a rapid deterioration of entire neighbourhoods and towns as a result of the growing internal and external negative image of the area. Abandoned and deteriorating buildings must be demolished and green areas, community gardens or recreational facilities put in place to use the space. Contests to beautify farms and houses are also helpful. Although with limited budgets and scale, the town of Atikokan and the agricultural community are developing similar strategies, which facilitate to keep a positive image of the Region. These examples illustrate how low cost programs based on collective action can improve deteriorated areas and help to maintain a town's stability. As a result, early deterioration diagnosis and intervention to avoid the broken window phenomenon is a simple but important action in fighting decline. The mayor of Rainy River town explains actions in this regard:

> When we had the centennial people invested a lot of money and time into cleaning the town and make it bright and shiny. And it looked so nice, we are trying to maintain this and we are putting bylaws in place so people maintain their houses clean and buildings are taken care. you have to look prosperous because that is the say 'if you look it then you will think it, and then it will happen' [RR. M1].

Fear of Change and Denial

Decline is a non-desired path of rural development. The essence of the process of rural development is positive and sustainable change. However, once the stable conditions provided by the economic dependence from central industries are endangered, people react to necessary change in an unwelcoming way. Two central factors influence this behaviour. One is that change produces fear (Fiorina, 2007; Homer-Dixon, 2007; Skogan, 1986). Most of the time, people are afraid to try something new. To cope with decline people have to take risks and taking risks is about trying something new. This explains why change is always resisted and why people are afraid of change. Even when services, employment, and social networks are starting to break down and deteriorate in the RRD, a lot of people are not willing to venture into the unknown and prefer to resist change. A local Chief Executive Officer explains this situation:

> There has to be willingness to change, and the older we get as people the more comfortable we get in our position as a politician or administrator and the less we want to change, unfortunately we don't have a lot of young people involved in the process that facilitate this change [LW.1].

The second factor is that the natural momentum of every organization is to preserve the status quo, because people who have positions of power want to keep them, so they invest their energies in preserving these positions. This is a common problem in municipalities who officially reject the idea of a regional government. A former local mayor describes this problem:

> Yes, you are going to lose some political power. You always have been working in your own little community, with your little budget, where you do your own little things. They don't understand yet the concept of a regional government where you still have a representation in this government... I think they are afraid of losing this political power, and that is a power they think they have, that is more a sort of imaginary thing that when you sat back to look at it is not a whole lot [E.DC1].

This factor is also a social cause of denial, since powerful groups (e.g. corporations, unions, and government agencies) have a vested interest in a particular way to approach development and viewing the rural world. The discourse of growth and competition promoted by these groups has so deeply penetrated our economy and society, that the capacity to promote in practice sustainability and cooperation as alternative discourses varies greatly. That is why change has to have enough power, a power of the vision of what can be different and that has to happen, and enough energy to overcome fears and power of the status quo (Fiorina, 2007; Flyvbjerg, 2001; Homer-Dixon, 2007).

Avoiding evidence of decline, denying its existence or possibility, or diffusing responsibility are all wrong strategies. Denial also has psychological causes, which reinforces this type of strategies because we choose to ignore things that threaten the systems that give us meaning and security, and because we want to forge the future with the same tools that were successful in the past (Homer-Dixon, 2007; Tainter, 1988). This trend is reinforced by the fact that decline develops incrementally over long periods of time. It becomes critical only when central industry closures start and reinforcing feedback loops initiate a cascade effect (see chapter 6). Denial is explained by a local leader:

> I don't feel there is a big sense of you know let's redefine ourselves, let's try to become something else, there is no efforts trying to find something radically different. All is going in a panic mode, everybody has different ideas and there are no priorities, everything is changing so fast that people follow any idea until it falls apart and then another idea comes up and they change direction. You really start to recognize what is really going on; we are in a certain denial about this [A. FG1].

Fear of change does not increase decline directly but may stimulate and accelerate some causes of decline. Increasing fear of change may cause individuals to withdraw physically and psychologically from community life (e.g. social organizations, clubs etc). Lack of power of local organizations and interests groups hinders their capacity to position new initiatives or forces them to fight hard to reach policy agreements at the municipal level. These problems weaken social networks and the mobilization capacity of towns. Fear may also contribute to the deterioration of business conditions. Indeed, as potential investors they may hesitate to create new initiatives in uncertain

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environments (Skogan, 1986). When starting planning processes for decline, we have to recognize this fear, and the inherent problems of power in order to facilitate the process of change.

The Bystander Problem:

People do not act collectively to cope with decline because they expect that somebody will come and fix the problem, or because they think decline is somebody else's problem, as seen in an interview with a municipal officer and a mayor in the RRD:

> I don't see much change for the future. Our roads are O.K. This is a good community. I don't know what problems other communities have down the road. I don't get involved in those problems [A. M1].

> What are we going to do if the population declines, the businesses close, and the tax base go down? How are we going to get through? That is an exercise that nobody wants to do. The council says let's not do that because everything is going to be O.K., because we are working on this and that... [A. M2].

Indifference and apathy was a common answer given in the interviews to explain this behaviour as well as the reason of low levels of public participation, and avoidance of change. A similar explanation was given by Rosenthal to a major crime in a New York street where, despite 38 witnesses, nobody called the police (Rosenthal, 1964). Darley and Latane conducted a series of studies of emergencies to understand this problem, which they called the "Bystander Problem", and to see who would come and help. These authors found that the primary factor determining helping behaviour was the number of witnesses present to the event. In one of the experiments, people who saw smoke coming out from under a doorway would report the problem in 75 percent of the time when they were alone, but only would report it in 35 percent of the time when they were in a group (Darley & Latane, 1968). In other words, when people are in a group, responsibility for acting is diffused. They assume that someone else would make the emergency call, or assume that because no one else is acting the apparent problem, i.e. decline , is not a problem (Gladwell, 2002).

When planning for decline, we cannot assume that everybody understands the problem of decline or is prepared and informed enough to face and cope with decline. Connectivity, communication and educational processes are important initiatives to approach communities and facilitate the creation of collective action to face decline. In the words of a local leader:

> Where I meet people to communicate? There are no plazas, there are no cafes in town, there are no places to communicate. We have the malls, but those are places for shopping not for communication, so there are not places for communication. My kids cannot go to the movies or having an icecream or having a drink, that is just not there and that is something natural for young people [D. A.3].

The key to motivate the community and change their behaviour, in other words, to enhance their participation in planning processes oriented to cope with decline, sometimes may be related to

small details or factors of their immediate context. We have to consider that local actors can be a lot more sensitive to their immediate context than they may seem (Gladwell, 2002).

7.4 Conclusions

This chapter described existing and potential responses to decline in the RRD, and central problems of planning and obstacles to collective action to cope with decline. This description complements the explanation of decline as a socially constructed, place-based phenomenon. It is strongly influenced by specific combination of factors, context and connectivity among the affected social systems. This chapter also approached the key question about why people do not react and change in this process. Institutional, socio-economic and psychological reasons were described, as well as complementary causes related to information, education, and public participation.

There is an internal planning gap in the RRD, as reflected by the absence of formal planning institutions, the limited quality and coherence of municipal plans, and its disconnection with the regional scale. This planning gap is also externally caused by the contradictory effects of top-down and "one size fits all" types of government policies. These actors ignore the complexity of the problem of decline and insist on growth formulas to solve a problem with a sustainable development nature. Economic and political elites are filling this gap and maintaining a structure that favours traditional forms of work and a mono-industrial economy. The planning gap extends the process of decline and hinders emergent processes that could work as internal forces of change to facilitate a sustainable development process. All these elements work as obstacles for local actors (individuals and organizations) to embrace change and attempt collective initiatives to transform the region.

There is a combination of forces that impede declining communities to adapt to change and reorient their path of development toward more sustainable scenarios. The RRD case study facilitates the recognition of at least three central groups of factors that help to explain why the regional society do not change in the presence of declining process: 1) Institutions (formal and informal) that have maintained a path dependence process characterized by conflict, isolation and mono-industrial dependence; 2) The conservative role of local elites and the features of socio-economic and political power linked with the extended process of decline; 3) Psychological factors, including fear of change and denial, and the bystander problem and broken windows phenomena. Together with the planning gap, these factors also suggest the need to rethink the current "Places to Growth" plan for Northern Ontario, and to re-orient it towards the support of endogenous forces and trends that will lead in a first-stage to the identification of the necessary elements for sustainable development in the RRD.

Chapter 8. Planning for Decline. Elements for a Planning Process

8.1 Introduction

Planning for decline or shrinkage is about change, i.e. preventing undesirable change and encouraging desirable change (Garvin, 2002); it requires traditional and new mechanisms, all of them aiming to promote change, and all of them harnessed by a common vision constructed by local communities. Key elements to facilitate the selection of this common vision were collected through interviews and focus groups and presented in Table 8.1

From a planning perspective population decline and deindustrialization also spell opportunities because the following four unexpected effects. The first is that fewer people will produce less pollution, which means cleaner air and water and thus a recovery of the natural environment (particularly fisheries and forests which are already affected in the RRD). The second is that while population decline and ageing are evident generally in the RRD, the First Nations communities are growing. In the long run, we should expect an important change not only in the population composition of Northern Ontario, but also in its general governance system. The third is that First Nations youth are remaining in the area, as well as other people and organizations that appreciate the intrinsic value of nature. Together, they are exploring new areas of work and sustainable forms for using natural resources. Finally, the planning gap represents a unique opportunity to design from scratch a New Regionalist type of planning strategy, inclusive of equity, tolerance and sustainability perspectives, and based on available and renewed social networks.

This chapter outlines four interconnected elements to plan for decline. First, key pivotal elements for a regional planning process in a declining environment are described. Second, these elements require an enabling institutional infrastructure and approach in order to mobilize the population towards needed change. Third, this institutional mechanism demands a theme that is suggested through a metaphor, the idea of the Commons, to be used as both motivation and means to start a permanent dialogue about the future of the region and the identification of basic shared features of desired futures and gradual specification of details. Finally, this permanent discussion about the region needs to be complemented with monitoring of key feedback loops of the social structure and economy (See Figure 6.1) as orientation for future corrections to the regional system.

8.2 Elements for the Planning Process

The variety of challenges that decline puts before rural communities, the lack of experience in local and regional planning, and the absence of blueprints or historical templates of potential

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scenarios combine as a complex task for the regional planning process in the RRD. To start the planning process in a context in decline, planners and leaders need to avoid two important elements, predictions and conservative strategies applied in central industries. These elements affect the adaptive cycle in the region. In the literature, predictions are common and influential, are mainly based on economic and demographic indicators, and pre-define which rural communities will decline. When constantly repeated, these predictions become accepted wisdom which in turn can influence policy making, and prospectively create a self fulfilling prophecy. As a result, predictions may become a reality as they reinforce the environment of uncertainty already affecting shrinking rural communities, deter potential investors, and can hinder policy making toward exploring new forms of support. Planning for decline needs to focus instead in the construction of a cooperative planning strategy inclusive of equity, tolerance, trust and sustainability perspectives, and based on available and renewed social networks and collective initiatives.

Various authors call these initiatives "adventures in living" (Holling, 2004; Homer-Dixon, 2007). These adventures are none other than practical strategies in a planning process where diverse actors initiate collective actions based on the experience of their social-economic and environmental networks (i.e. Agency). These actions recognize the insufficiency of predictions, as well as diverse changes in the local regional dynamics such as change in the composition of actors, transformation of local and regional interests, and other socio-economic factors described above and related with patterns of social and economic shrinkage. Gross considered that a process like this refers to a strategy of "*experimentally reorganizing given conditions*" (2008, p. 457).

A planning strategy oriented to such reorganization of the regional system needs also to avoid retaining or recovering the same functions, social structure and feedbacks that characterized the region before the crisis. Although this strategic element will face political obstacles linked with local elites, a regional planning process for a region in decline aims to develop a strategy shared by the diverse actors present in the region, and looks for a new landscape reflecting a common vision for the future. Such a planning process will facilitate the creation of a new structure and functions for the region and a multifunctional economy (not a post-industrial economy as the production process still conforms the cultural base of the regional social structure), from which potentially a new governance system will emerge.

This process will facilitate consolidation of the vision of what people want to sustain in the region. In this regard, Table 8.1 describes diverse elements suggested in the interviews. Whatever combination of these future potentials or alternatives materializes, the most important is that there

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will be a network of First Nations Reserves and Municipalities working together for a common future, no matter what the size of the community. The majority of participants in focus groups agreed on this argument:

> The fact is that there is a small group that like the way it is [the community], that celebrate and love it in its new definition [shrinking]. But there is the other group that has lost a lot and want the town to grow. We have to look for an active, vibrant community, doesn't matter the size, the size will fit the community, so the important fact is to have a vibrant community [A. FG2].

Table 8.1: Elements for a Vision in the RRD

What we want to sustain for the future	How do we want them to be in 20 years
1) **First Nations**	Higher role in politics, economy, education and culture. A First Nations network for regional trade, business and tourism, interacting dynamically with other towns and cities.
2) **Natural Capital**	New forms of use of natural resources, different from lumber and paper. Ecotourism and agriculture playing a central role in the regional economy. Value added manufacturing, Non Timber Forest Products and biotechnology. Projects based on alternative sources of energy: biofuels and wind energy.
3) **Governance system**	A transition from a disjointed group of small shrinking communities, into a vibrant and sustainable region with ethnic diversity represented in councils, but conserving its values and rural flavour. A two tier system for municipalities. First Nations advancing in their project of sovereignty.
4) **Built Capital: Communities**	A small but stable population, with a multi-nodal center shared by Rainy River and Couchiching First Nations, Atikokan, Fort Frances and Emo. At least two functioning airports and a public transport system. Several attractive hotels and motels, as part of a modernized infrastructure for tourism. At least two education centers with focus on technology and environment and links with universities. A regional theatre and a network of museums leading the process of education about the region.
5) **Planning**	One Regional Planning and Economic Development Agency
6) **Economic Capital: Initiatives**	Based on key regional assets and initiatives in technology, agriculture, value added manufacturing, ecotourism, and a network of health centers. Promotion of health tourism for Ontarians and international tourists based on the high quality health centers and the therapeutic advantages of the natural environment. High levels of self sufficiency to fulfill local needs related to food and other produce, and less reliance on transportation.

A collection of elements suggested by interviewees that can be used to identify key features that the community wants to sustain or create. Source: Information collected through interviews and focus groups (Summer, 2008).

Given the current transformations happening in the RRD, and particularly the emergent role of First Nations communities, the concentration of services in Fort Frances, and the crisis in the smaller Towns, a regional planning process must be based on a collaborative approach (Healey, 2004). Such a process can harness the current conflicts and challenges and use its transformative power to create a radically new type of settlement organization, and a new natural and built landscape that does not necessarily resemble the prevalent mono-industrial development currently in place.

Nevertheless, there are basic institutional, organizational, cultural and governance elements and functions that this process need to maintain or recover (Gross, 2008). Among these elements public participation is central. Only the inclusion of diverse actors and their organizational networks, particularly emergent networks in the area, can give the necessary robustness to the planning process.

The golden rule for a planning process in a declining context is that, just as individual communities vary, forms of decline differ, and a single approach or "silver bullet" will not work in all situations. Therefore, the first step for planners is to identify the key elements and feedback loops that configure the structure of decline (Figure 6.1), which will facilitate an integral analysis of the declining context and the identification of an appropriate approach for each situation.

Finally, a key element in the planning process in the RRD is the need to balance policy dynamics related to land use. In this case study, the RRD has three differently orientated types of communities; First Nations Reserves, Municipalities and Unincorporated Areas. Indeed while First Nations Reserves follow Federal orientations, the latter communities follow provincial orientations and regulations. As a result, there are different ways to address land use problems, which also makes more difficult to address land use issues at a regional scale. On the other hand, the knowledge, experience and attitudes of elected officials about the planning process vary greatly. Together, these disparate policy dynamics in the RRD represent a complex challenge for a regional planning process and simultaneously an important opportunity to identify mutually supporting opportunities and to plan together the future of the region.

The RRD is at a point in history when one commodity cycle is ending (forestry) and another waiting to re-start (mining). This moment raises questions about future regional transformations, where levels of uncertainty are very high, and usefulness of predictions is questionable. Thus the only way to proceed is inventively and creatively. Only a common approach to the region will facilitate the start of a regional planning process, and that common approach needs to be created by a strong planning institution shared by and inclusive of the three types of communities present in the region (reserves, municipalities and unincorporated areas). The qualities and features of this institution is a decision that also must emerge from the confluence of the interests of these local communities.

To summarize: A planning strategy to approach decline requires a regional, integrated planning process, based on the coordinated actions of local actors (individuals, organizations, municipalities, reserves, and ministerial agencies), and understood as a systematic process that furthers the preparation of a plan and includes, among others, these elements:

- Permanent learning about the region, improvement of knowledge about current socio-economic structures, and dimensions (See Chapter 6);

- A strong monitoring and evaluation structure that communicate outcomes, experiences and acquired knowledge to local and regional actors, about the dynamics and temporal and spatial scales of change (See Chapter 7);

- Implement education and communication initiatives to reduce fear of change and other obstacles for sustainable development (See chapter 7);

- Identify and enhance formal and informal institutions and networks to create a soft infrastructure oriented to the transformation of conflicts, to encouraging tolerance and promote renewal, to increasing the understanding of the region, and re-creating the capacity to combine social, economic, and natural capitals to deal with change;

- Selection of a theme or a metaphor to facilitate a wide discussion about the future, how to achieve it, and how to involve diverse communities and actors in the region to increase their interconnectivity, levels of communication and capacity for collective action; and

- Identify the mechanisms to avoid undesirable change and encourage innovation through a variety of initiatives to find possible and convenient bifurcations and escape the path dependence process.

The remainder of this section expands of the last three points: Enabling infrastructures, a metaphor for the region, and mechanisms to avoid undesirable change. These elements are supported by further evidence and analysis provided by people working in complex problems and complex evolving systems (Holling, 2004; Lederach, 1997; Popper & Popper, 1999; Vennix, 2001).

8.3 An Enabling Infrastructure for Transformation

As it was noted in the historical analysis of the RRD, this region is about to start a third important reorganization as a result of the forced release of capitals and resources linked to forestry industry (see section 3.2). However, there is much uncertainty about the features of the "new region". In this regard, there are two potential scenarios. One is a switch to mining, following the dynamics of commodity cycles, and continuity of the path dependence process of relying on the exploitation of natural resources. If followed, this scenario will extend the current situation of the region and include new cycles of boom and bust, further concentration of population and services in the biggest towns and out migration of population with subsequent disappearance or amalgamation of smaller centers. The second scenario, involves a consolidation of a sustainable regional community through increased

connectivity and trust among towns and reserves. Reserves and towns in the region put in place a regional cooperative system, stabilize their population, transform their conflicts, and cooperative initiatives based on new forms of works and use of natural resources open the way for a new regional economy.

This research has described how elements of both scenarios are currently present in the Region. Which scenario will consolidate and eventually predominate and which one will wither away is unclear. The future RRD will depend on the decisions and choices made by local agencies and their ability to enhance social networks, transform their conflicts, and creatively use available capitals. Based on the interviews and focus groups conducted in the Region, I assume that local actors are more in favour of the second scenario. As a result, local actors need to start planning to materialize this scenario. As part of this process this research suggests an enabling infrastructure to consolidate the necessary conditions for the transition toward a sustainable "New Region". To create an enabling infrastructure for sustainable rural development in the RRD, three key elements or necessary conditions, explored in Chapter 5, need to be considered:

- Capitals: Promotion of collective action, through enhanced public participation, to facilitate cooperation among communities, and flows and combinations of capitals.
- Networks: Promotion and strengthening of emergent social networks through the increasing creation of weak ties to increase connectivity among actors and communities, to retain and attraction new talent, and to enhance rural development.
- Conflicts: Promotion of tolerance and trust as key social assets that need to be recognized and enhanced as the base for conflict transformation, and as tool that will help local institutions to advance the process of reconciliation and reorganization of the region.

The idea of "enabling infrastructures" is shared by different authors working in the field of development (Bryant, 1999), conflict transformation (Dugan, 1996; Lederach, 1997) and Complex Systems (Kay, Boyle, Regier, & Francis, 1999; Mittleton, 2003). This idea, developed in multiple disciplines, is oriented to answer a key question related with sustainable development: *How do we promote change?* When planning for decline, rural development needs to be based on a proactive change in the relationships among actors (individuals, organizations, and government agencies), and between actors and the ecosystems in the region. This task must be handled simultaneously at the macro (regional structure) and micro (community agency) scales, as well as simultaneously working on particular issues and long-term projects.

To plan for decline and change and lead communities through the process of transition, from crisis to sustainable development, thei need a particular institutional mechanism. This mechanism is an enabling, soft, infrastructure that emerges from purposeful interaction of diverse actors. Enabling infrastructures are a set of socio-cultural and planning conditions, constructed from a long term perspective that facilitates the emergence of new ways of organising, and working. An enabling infrastructure facilitates communities to build new patterns of relationships, conflict transformation, and reorganization of social networks within and among communities, and also with the external world. This infrastructure will be unique for every region and will have the capacity to respond to short-term crisis, and medium term initiatives as well as envisioning a long-term desired future. The qualities and dimensions of an enabling infrastructure for the RRD are synthesized in Figure 8.1.

Figure 8.1 An Enabling Infrastructure for the RRD
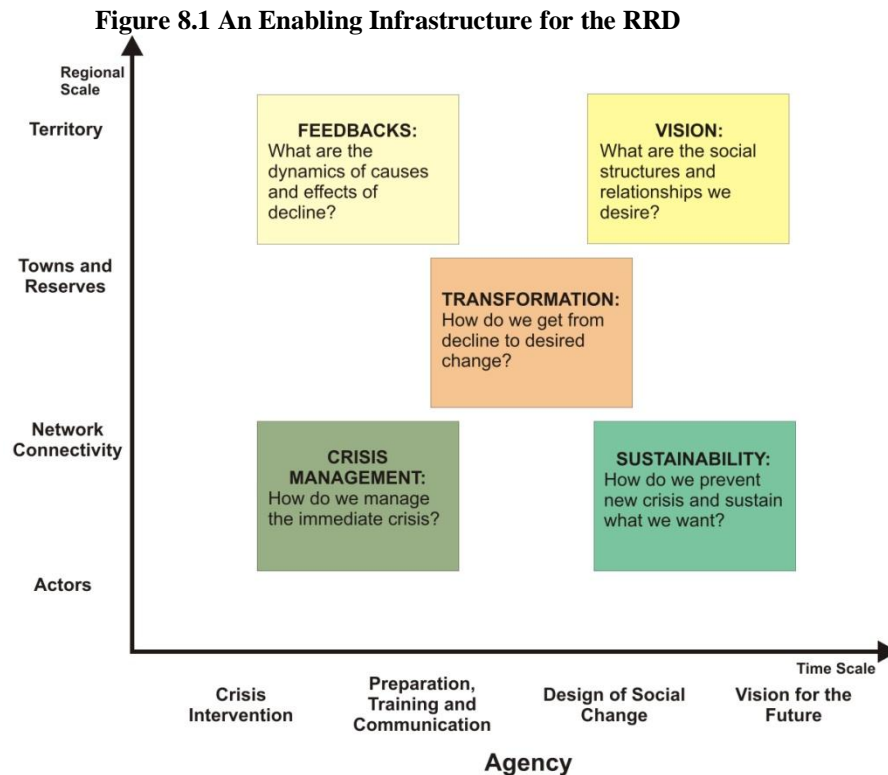
This infrastructure involves key features of the region as a complex evolving social system – CESS, including actor's relationships, interdependence and conflicts among them, multidimensional structure, feedback loops, and co-evolution. Source: Based on elements proposed by Lederach (1997), Dugan (1996), Bryant (1999), and Mittleton (2003).

The infrastructure described in Figure 8.1 suggests the following elements:

1. On the X-axis four time scales and procedural actions to address decline are considered. First are the immediate needs produced by industry closures and similar episodes in a given community. Although the focus is on the achievement of immediate solutions and initiatives, they

have to be planned, linked to a long term strategy, and inserted in a clear and robust regional plan. Second is the preparation of the necessary human capital with the skills to conduct the long-range regional planning process. Third is the design of the necessary social structure changes and the recovery of decaying networks. This second element encompasses a medium term range. Finally, the last element refers to the selection of the vision to orient communities and the regional plan. This element encompasses a long term range that can expand through decades. In general, we have to think about decline and the recovery of social networks as a long term process.

2. On the Y-axis, spatial scales and the nature of challenges are considered. The first element refers to specific issues and effects of decline such as closure of services, conflicts, and unemployment. The second refers to broader relational structures, such as network decay, and deteriorating relationships among communities. By approaching the first two levels, both located at the local micro-scale, we would remain in the sphere of effects, which would do little to affect the dynamic and structural nature of decline. The third element introduces the subsystems in the CESS, which are towns and reserves and their immediate hinterland, within which specific and relational issues evolve. At this scale the local systemic concerns and specific and relational issues are addressed. The municipality, for example, might create, with the support of a regional Future Economic Development Corporation, a business incubator to promote small enterprises in value added manufacturing and applied technology, and engage in other concrete programmatic activities. The Municipality, Reserve or Unincorporated Area is a middle range scale of activity that connects lower and upper levels of the territorial CESS. The focus at this macro-level is regional rural development.

Towns and Reserves are the nested scales of the CESS, which underscore the need to permanently look at the big picture of systemic issues. However, the subsystem level (e.g. municipalities) is the most appropriate scale to experiment and identify and try new bifurcations (See section 8.5) that promise to interconnect systemic and immediate issue concerns, in other words, individual or localized initiatives (agency) that may transform the CEES (structure) in the long term. At the macro-systemic level, or territory, the communities can promote projects and policies that have been proven as positive.

3. The internal section of the Figure 8.1 suggests actions emerging from the overlap between time scales and procedural actions (X), and spatial scales and nature of challenges (Y) as central elements for the regional approach to planning in a declining context. Together the two axes suggest an integrated approach to decline. The X-axis links the focus and space scales (levels) of intervention

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to cope with crisis (Dugan, 1996), while the Y-axis is the time scale that links the short term crisis with the vision for the future (Lederach, 1997). The two dimensions intersect at the following five points, each of which represents a distinct, but complementary, area of intervention.

- Feedbacks: A structural and dynamic modeling and analysis of causes, effects and feedbacks related to decline. This area builds on historical analysis of the territory and the problem of decline.

- Crisis Management: Focus on immediate issues, although considering the general context and the regional plan.

- Vision: This describes desired social, institutional and political structures as well as future connectivity between actors in the region.

- Sustainability: At the level of actors' issues but facing the future, the area of sustainability concentrates on learning about the region and lessons from previous crisis, in order to prevent its recurrence and transmit to future generations the values and assets that local actors want to sustain.

- Transformation: The focus is on descriptions and strategies to promote change. This area demands input from the other four areas above.

This integral approach to decline also suggests four key points: First, decline in towns needs to be recognized as a rural development problem that involves long term time scales. This will also facilitate links from immediate crisis to long term goals and vision. Second, there is a need to connect decline to its systemic and dynamic cause –effects features, and to link to issues with networks and communities within the territory, i.e. considers spatial scales. Third, decline needs to be thought of as a structural problem, socially-constructed, and, as such, recognize the role and potential of local actors and networks who can strengthen or weaken social networks and the design of social change at a community level. Thus actors and networks not only can influence the areas of intervention between the axes of the enabling infrastructure, but also can sustain or hinder a process of desired change. Finally, to start organizing the suggested enabling infrastructure, several steps may be taken as in Figure 8.2.

Figure 8.2. Key actions to foster a self-reinforcing cycle oriented to create an enabling infrastructure in the RRD

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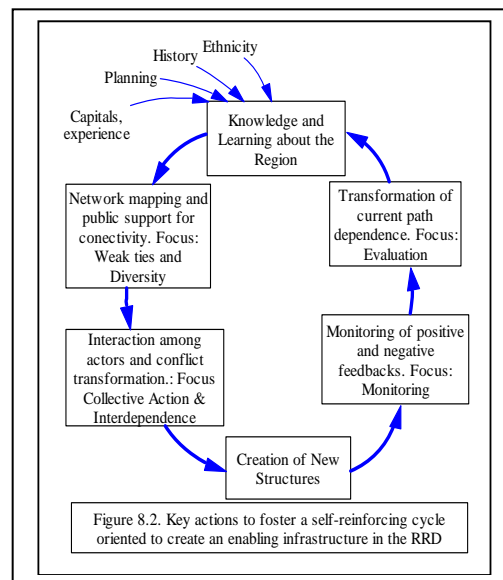
Complexity theory and social network theory suggest that the search for a single strategy or the reliance on a single form of capital, as well as over-reliance on one type of ties or relationships (i.e. strong ties), may not be desirable. Consequently, a single strategy to overcome decline (e.g. attracting new industries) will not suffice because of permanently evolving factors of the process of decline (See figure 6.1). To cope with decline, communities need to identify and promote diverse opportunities. In other words, communities' strategies need to evolve as the CESS evolves. In sum, the challenge is not to remain focused on the diversification of the economy, dependent on a particular natural resource, but also to diversify the strategies to reach a sustainable rural development process for the community.

8.4 The Natural Capital and the Idea of "The Commons"

The argument in this section is that the RRD needs a common theme, a shared element, or a magnet that attracts the efforts and channels the vision and purposes of diverse communities. That theme can be based on the natural capital of the region.

Assets Linked with Natural Capital

From a land use and a historical perspective the RRD is subject to several dynamics that are slowly converging toward the need for new forms of use of natural capital. This key point was evidenced in interviews and focus groups whose participants emphasized the importance of natural capital, particularly the parks, forests, lakes and rivers as the historical backbone of the territory, its society, culture and economy.

All these perceptions are connected with the public green space in the RRD. However, this important asset goes beyond the RRD. Spanning the international border between Northeastern Minnesota and the RRD is the largest expanse of protected area in the center of North America comprised by more than 37,500 km2 (Searle, 1977) . The environmental community in the RRD and Rainy River First Nations is part of a wider environmental network currently working to enhance the network of relationships linked to this natural asset. This is comprised by several separately managed areas that include Quetico Park, the Superior National Forest (including the Boundary Waters Canoe Area Wilderness), Voyageurs National Park, numerous smaller Minnesota state forests and parks and Ontario provincial parks, Rainy Lake, the Rainy River and Lake of the Woods (Heart of the Continent Partnership, 2009; Kutas et al., 2002). This unique protected area represents an important economic opportunity through development of ecotourism. Some Towns, such as Ely in Minnesota, are

capitalizing on this advantage. As stated by the manager of Quetico Park, the RRD has not been actively pursuing this opportunity:

> Atikokan sits on the edge of a huge international protected area, used by more of a million customers each year. Ely feels more part of the wilderness than Atikokan, Ely's slogan for radio stations is 'end of the road radio' and Atikokan does not position itself for that. They do [A. P1].

Four complementary trends are playing in favour of this important asset. The first is that First Nations communities are advancing with their project to recover their traditional governance system, economy and territory. As part of this process, land claims located within the boundaries of Treaty No.3 represent an important area that will be subject to traditional forms of land use and preservation. The second is that, from an economic perspective, local communities are reacting to forestry industry restructuring through the introduction of sustainable practices in agriculture such as water and soil conservation, organic agriculture, organic beef and elk production, creation of new initiatives in value added manufacturing, exploration of joint ventures in biofuels, etc. The third trend is that there are diverse emerging social networks, directly linked with the natural environment, such as the Rainy River First Nations Watershed Program, Rainy Lake Conservancy, and Quetico Foundations, and the Heart of the Continent Partnership, their activities ranging from conservation to sustainable recreational purposes. Finally, the RRD counts on diverse complementary amenities such as the agricultural landscape, the museum network, as well as diverse events and cultural assets (Pow Wows, The Emo Fair, etc.) and diverse signature species such as moose, loon, walleye, elk etc. Local actors recognized these trends and the need of a common theme to harness and orient its potential, as stated by the manager of one of the local museums:

> We have a good story for the current economy and for the future green economy: we are at the doorstep of the largest collection of publicly managed wilderness areas in the continent, and we don't realize that yet [A. P1].

The Commons: an Idea to Orient Change

Natural capital has traditionally been the base of the economy of the region, but the way of use of this capital led to important instabilities for the social system, negatively affecting its carrying capacity. As a result, natural capital needs to be seen in a different way, not only as the base of the economy, but also as the common base of the regional society, communities and networks, and the source of its future wellbeing.

In 1987, Popper and Popper introduced the term "Buffalo Commons" to propose the creation of an important historical preservation and soil conservation area in the Great Plains. In this territory, that also faces agricultural crisis and population decline as in the RRD, the proposal focused on

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transforming land use towards preservation and conservation (Popper & Popper, 1987). The authors considered that distressed rural economies can build sustainable development processes by implementing an ecological re-evaluation. That is, instead of being considered as a place tied to a failing economy, their region should be restored to a place that is both valuable and beautiful (Ranney, 2004).

A suggested metaphor for the RRD may be based on its abundant natural capital, in a way that reflects its importance as the backbone of the region as well as the historical and social values of local communities. Central assets linked to natural capital in the RRD described above, have already been used in diverse attempts to construct such a metaphor. For example the environmental community has proposed the theme of the Heart of the Continent (Heart of the Continent Partnership, 2009); and the Northwoods Wilderness Frontier (Kutas et al., 2002), following the green space asset described above. The tourism network has also attempted to promote some themes, although in a more dispersed way, such as the Sunset Country (NOWATA, 2008); and the Arrowhead Country (Wood & Fels, 2008). The latter, promoted by the CNR, coincides with the recognition of the wider territory and the public green space. Nevertheless these attempts have been constrained either to industrial or to environmental networks and have not percolated yet other dimensions of the territory and adopted by the wider society in the region. These sources build upon the emergent initiatives currently advancing in this direction in the RRD and North-eastern Minnesota. The idea of the Commons as a metaphor is also a concept for land use and its intention is to help create a public dialog. As a result, it must be seen as the central engine for a regional plan.

This idea, based on the protection, sustainable use and preservation of the natural capital is a framework oriented to engage traditional and emergent networks and their initiatives, currently disarticulated and usually promoted through different strategies. The idea of the commons has three main advantages (Popper & Popper, 1999; Wood, 2008): One, is its flexible approach. It does not rule out best practices in agriculture, improved telecommunications, alternative crops and sources for bioenergy, value added manufacturing, tourism and other initiatives currently in place in the RRD. Second, this metaphor is useful for regional scale planning, encompassing the diversity of environments and communities existing in the RRD; and finally, this metaphor works as a vehicle to analyze the real identity of the RRD, create a common vision and plan for the future.

The Commons idea also represents a unified approach for a new rurality, and a tool that will facilitate efforts to seek for provincial, federal and private support for this territory. In turn, funding institutions will not have to deal with different communities and organizations or with the related

paper work and waiting time, for planning procedures, funding and priorities. Consequently, the RRD will be better positioned to have its interests understood, and will have a stronger position in provincial, federal and international negotiations.

8.5 CESS: Key Processes to Cope with Decline

This research has described how the region can be seen as a complex evolving social system (CESS). From this perspective, the RRD is a dynamically stable system composed of two subsystems: natural and social. This research has focused on the social subsystem. As with all dynamic systems, the RRD is in danger of declining (i.e. succumbing to instability), this is why it needs continuous self-correction. When a dynamic social system collapses, it disintegrates and disappears (a ghost town) or another dynamic system can engulf it (e.g. amalgamation). In some cases, a new system can be formed out of the remaining parts of a collapsed system, which is the case of First Nations communities after their confinement in reservations. In section 6.3, we described five practical approaches to decline based on systems theory, i.e. interdependence, connectivity, co-evolution, history and learning. In this section, four additional key types of resources that a CESS can use for evading decline and collapse are described: bifurcations; positive-feedback loops; negative feedback controls; and emergency adaptations (Jacobs, 2000; Tainter, 1988; Walker & Salt, 2006). The construction of an enabling infrastructure facilitates planning and control of these resources.

Bifurcations: These are discontinuities that happen when a system becomes unstable, transforming and making its continue functioning possible. There are many examples of bifurcations in the RRD, such as: The transformation of agriculture from dairy cattle to beef and elk production and more recently organic agriculture; the ending of the board, and pulp and paper mills and the slow consolidation of value-added manufacturing; and the slow steady transformation from fishing and hunting tourism into ecotourism. Bifurcations have complex consequences, as they represent not only new practices but also changes in the systems from which they originate. Further accumulation of bifurcations will transform the process of rural development in the RRD. By identifying and encouraging positive bifurcations, a declining community may evade collapse. New bifurcations also represent challenges such as overcoming fear of change; attracting people with talent and new skills; entering into joint ventures and new forms of collaborative work; transforming conflicts; etc. If corrections to the system do not suffice it will decline. Bifurcations, although not planned, have been frequently attempted in the RRD, at different scales and with varying success. The point here is to introduce into the planning process an intentional activity to identify potential bifurcations that aid

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reaching regional goals, and to promote them. Potentially, bifurcations lead to new instabilities, which is why it is important to create and maintain a monitoring and evaluation system.

Positive Feedback Loops: As detailed in Chapter 6, these types of feedbacks are positive responses that reinforce or intensify what the feedback is reporting. An example of positive feedback in the RRD is the exports of beef and elk. The production of meat results from the combination of external resources (e.g. vaccines, machinery, and fuel) and local resources (e.g. soils, grasses and water). In this process farmers also combine different forms of capital (natural, human and social capital). Produced meat is exported, which provides the community with additional financial capital. This additional amount of capital is used to import new external resources and maintain local resources, which facilitate the reproduction of the productive process and generate further export; and so on. This is a form of economic self-refuelling. Other examples are related with import replacing activities. Together with bifurcations, positive feedback loops are the mechanism that facilitates the emergence of diversity; they facilitate economic expansion but avoid dynamic instability. They reinforce both dynamism and stability.

However, positive feedback loops can also produce negative effects. An example is the process of out-migration which makes the tax revenue deficit increase, which in turns increases the problems with infrastructure, damages the quality of place, and leads to further population loss. These are vicious cycles because, instead of correcting an instability faced by the system, they intensify it. Economic vicious cycles are at the heart of mono-industrial dependence. The most effective way to escape from them is through bifurcations. As a result, the planning process requires a permanent analysis of trends in industries, society and environment to track down these cycles, encourage positive feedback loops leading to positive change, and to avoid vicious cycles by encouraging bifurcations.

Negative Feedback Controls: These feedbacks, also detailed in Chapter 6, can be clearly explained with the offer-demand curve and the regulatory role of prices. Low prices of housing in the RRD have practically cancelled all new construction in the region. In this way, the mechanism of negative feedbacks introduces corrections. Particular policies such as quotas, subsidies and tariffs can artificially transform costs and prices. For example, subsidies, countervailing duties and other international trade policies related to export of timber to USA artificially transform dynamics of timber offer-demand and prices. As a result these measures cancel the potential corrections from the mechanism of negative feedback control related to prices and offer-demand. As a result, negative

feedbacks need to be identified, carefully monitored and analyzed. Effects of public policies are of particular importance in this realm.

Emergency Adaptations address temporary instabilities in the system. Economic shocks, technological improvements, and other changes in external drivers of change can threaten the stability of local communities as well as their economies and society. Communities respond by implementing whatever measures seem to work. Some projects and services may be cancelled, while new investments are introduced. If all that can be done is not enough, the community collapses. These types of adaptations are common in economic bust periods. However, this is also a reactive form that is usually not planned but, rather, is implemented through trial-and-error.

When a planning process is in place and the information and experience emerging from the analysis of the above described forms of adaptation is available, the community is better prepared for moments of crisis. This also facilitates the proactive orientation that crises demand. These four types of adaptations are closely linked to social agency and self-organizing properties of social systems.

8.6 Conclusions

This chapter has outlined four interconnected points. The first described the central elements necessary for a regional planning process in a declining environment, and how to proceed in such situations. The second described an enabling institutional infrastructure and an approach to mobilize communities towards a needed change, or the mechanism to proceed. The third point suggested the need for a theme to call for action and create a permanent discussion about regional rural development, a motivation and a vision to proceed. The final point described how one might follow up on regional transformation by monitoring key feedback loops in the social structure and economy. Monitoring of key feedback loops provides orientation for future corrections of the regional system.

The current planning gap in the RRD demands more than simply hiring consultants to create documents and present them as plans to fulfill the demands of MMAH. The complexity of decline demands a planning strategy that includes at least six elements. First, the region needs a formalized cooperative regional planning process among local actors, organizations and government agencies. Second, local actors need to increase their knowledge about the region and its socio-economic, ecological and political structures: A learning process to facilitate cooperation and collective action as a result of shared experiences and dynamics. Third, communities in the region need to implement education and communication initiatives to prepare new leaders, invigorate public participation and local politics, and reduce fear to change and denial. Fourth, there is a need to continue the mapping of

institutions and networks started in this research. Mapping of networks and institutions, and how they influence feedback loops between structure and agency is a preliminary step to creating enabling infrastructure for transformation of conflicts, encouraging tolerance and promoting renewal, and for enhancing capacity to combine social, economic, and natural capital to deal with change. Fifth, communities in the region need to agree on a theme or a metaphor that facilitates a wide discussion about the future, and how to achieve it. This discussion needs to involve diverse communities and actors in the region to increase their levels of interconnectivity, communication and capacity for collective action. Finally, there is the need to identify the mechanisms necessary to avoid undesirable change and to encourage innovation through initiatives to find convenient bifurcations to escape the path-dependence processes.

The creation of an enabling infrastructure to promote change goes hand in hand with the idea of the commons and the design of a metaphor that will serve as a preliminary common vision to start the work and channel the efforts of the proposed enabling infrastructure. The Commons is a metaphor that can be used to rethink land use in the RRD, to rethink old practices and forms of use of natural resources, and to clarify what to preserve, sustain, and enhance. This metaphor can help to crystallize the history of the RRD and to better understand the region, and use it as a way to make understanding of place a forward-looking means for adaptation (Popper & Popper, 1999).

Chapter 9. Policy and Planning Implications and Conclusions

9.1 Introduction

Decisions makers and analysts have been trying to analyze and solve the problem of rural decline without maps that relay the interconnections of the various dimensions of decline. An analysis of socio-economic networks of small cities and towns in decline can provide such maps.

To understand decline, I developed a two-fold approach. First I examined evidence that suggested that demographic-economic indicators were insufficient in their ability to describe and predict decline. Second, I searched for factors that suggest how to plan for decline. I have demonstrated that the causes of decline go beyond demographic-economic indicators. The case of the RRD illustrates that factors such as competition and distrust among communities can be even more powerful than population loss and poor economic performance.

Globalization does not mean that competition is the only way to achieve rural sustainability. Small towns across the world are increasingly moving towards collaborative approaches as they realized that competition hinders their progress towards achieving a more sustainable future. Small towns are a different urban species from larger communities and they need to engage in networking, collaborative approaches for solving complex problems such as decline. The RRD needs to address the process of transition into which it is now pitched by creating a collaborative regional network that starts with joint ventures, information exchange, and learning. However, a *sine qua non* condition to start a process of regeneration is the recovery of trust among communities in the region. Trust is the necessary ingredient to spark a trend to improve their quality of life and sustainability.

In this chapter, policy and planning implications and future research are discussed, following the original research objectives set out in Chapter 1, and re-iterated below:

1. Construction of a multidimensional interpretation of decline in rural regions and the identification of planning elements to improve community planning in declining contexts.

2. To develop and apply a conceptual framework to guide research and interpret outcomes about the problem of decline in rural regions and communities.

3. To characterize and analyze the role of conflicts, networks (social, economic, environmental and political) and capitals (social, natural, built and political) in the process of decline of resource based communities.

4. To identify and evaluate existing planning approaches to decline, local responses, initiatives and forms of adaptation to decline in the case study.

5. To identify policy and planning implications.

9.2 The Multidimensional Nature of Decline

This research has created a multidimensional and dynamic interpretation of decline, which complements the existing literature about decline that focuses almost exclusively in demographic and economic indicators. With this purpose, and based on multiple methodological tools, this research explored each of the central pillars at the core of the paradigm of sustainability: The social, economic, environmental, and political, so as to describe a rural region in decline. This multidimensional reading was complemented with an interpretation of the region from the perspective of local actors, which facilitated construction of a qualitative regional model and identification of multiple feedbacks in the mechanism of decline. Four main findings are linked to this objective.

First, by focusing exclusively on demographic and economic indicators of decline, scholars and practitioners gloss over other socio-economic, environmental and political dynamics of local actors and administered as part of the more general process of social agency. This research illustrated these multi-dimensional dynamics of decline at the regional scale by exploring the process of decline in the RRD.

Second, this research revealed that the RRD, as with any other rural region, is not isolated but part of a continuum (Hahn, 1970), in which diverse communities are interconnected at the regional level. Issues that face one community will invariably influence its neighbours. Thus decline is context dependent; but, every rural region has a unique and complex combination of dimensions, factors, and processes, that determines how sustainable will be the process of development, and thatl cause social systems to either thrive or wither.

Third, the Rainy River District, as a Complex Evolving Social System, is currently in crisis. This crisis has historical, political, technological, ecological, economic, cultural and psychological causes interacting through a complex and dynamic system of feedbacks. However, the future development of society in the RRD has not been abandoned to some pre-determined fate, as would be suggested by predictions based on demographic and economic indicators. If region's current path does not change fundamentally, however, it can enter into a breakdown of its social system. However, this situation can be transformed and reoriented. Analysis of the region as a CESS, through a qualitative model of decline, illustrated the diverse forms in which different feedbacks interact and transform the region. This model can be used to monitor change in the Region and as a tool to promote dialogue and consensus to kick-start a sustained cooperation by channelling positive effects rather than block them or ignore them. Denial primarily facilitates emergence of negative impacts, and accelerates the process of decline.

Fourth, the literature presents decline as mono-dimensional, consecutive or linear (cause-effect), as a staged process, and as politically and socially conflict free. Decline is frequently presented as a negative process that needs to be overcome through opposing dynamics, i.e. growth. The application of the conceptual framework revealed a contrasting view based on two elements. On the one hand there is the complexity of the problem of decline reflected in the multiple actors, governance system, and forces of change interacting simultaneously over the territory. Historical, socio-economic, environmental, economic, and political factors emphasize its multidimensional nature. On the other hand, though decline has a widely recognized dark side, it exhibits a less known and explored bright side leading to social and environmental renewal. The regional system facilitates decline of some features and emergence and renewal of others. A nuanced reading of the region as an evolving system may facilitate a more accurate reading of these features. This research found that decline is a dynamic, multidimensional, systemic, conflict based, highly interconnected, and politicized phenomenon.

9.3 Conceptual Framework Designed to Guide the Research

Decline is occurring at wider scales. The region's towns and settlements have evolved from planned communities with homogeneous stakeholder groups operating in a comfortable corporate environment and with parochially defined issue arenas, to a new, complex environment with multiple interest groups, networks and conflicts. However, the analysis of decline remains exclusively locked into economic-demographic analysis and intervention based on formulas that do not proceed beyond formal institutional arrangements (e.g. amalgamation of local municipalities and service providers).

To construct an alternative reading of decline, this research proposed a conceptual framework based on social networks and capitals, conflicts, and complex systems theory. The overall background was provided by the New Regionalism planning theory which. Three elements connect these theories. One is the recognition of the role of interrelations among diverse actors. Second is the recognition of the importance of "soft" elements, i.e. informal institutions. Third is the recognition of diverse flows of capitals and power through diverse networks conformed by local/regional actors which functioning is mainly based on sets of informal institutions. This conceptual framework was used as both frameworks for interpretation and methodological tools to understand why and how decline happens.

The proposed conceptual framework proved viable for understanding decline from an integral perspective. The application of this framework suggests that focusing on individual quantitative demographic-economic indicators generates several problems. This focus glosses over components of the social structure and vulnerable social groups, prejudges prosperity, ignores local capital

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endowments, and demotes the wider regional context. It also neglects the positive effects of decline as well as 'soft' elements that represent assets, potentials and trends existing in the region that can be the key for constructing new paths of regional sustainable development. Third, this focus is insufficient to completely understand or predict decline. It has limited explanatory capacity concerning existent divergent processes in the region, and cannot explain emergent socio-economic trends (e.g. First Nations growth within a declining region). Finally, population decline cannot be taken for granted as an indicator of decline since it is neither spatially nor structurally uniform.

The application of the conceptual framework to the case study, did not verify a process of generalized decline in the RRD. As a result, this case study negates the general assumption that communities exhibiting negative values for indicators related to population growth, out migration, distances, single industry economy, employment, cost of transport and lack of agglomeration economies will necessarily decline (Bourne, Gertler, & Slack, 2003a; Polèse & Shearmur, 2006). Furthermore, the region is in a process of transition that could lead to a different type of rurality if local communities decide to engage in a cooperative process for sustainable development. Based on the principle of negation suggested by Foucault (1970), predictions of declining or growing communities focused on "size" type indicators need to be reconsidered. Furthermore, such an approach can lead to superficial conclusions and inappropriate policy decisions that would affect the most vulnerable population. Other cases in the Canadian middle north (e.g. Chemanius in B.C. (Barnes & Hayter, 1992) and Elliot Lake in Ontario (Mawhiney & Pitblado, 1999)) offer further evidence.

Development of the conceptual framework and its application to land use planning in a rural region in decline contributed to the cross-pollination of ideas from planning, social networks, conflict theory, and complex system dynamics. The last, and specially resilience theory, facilitated the capture of the complex and dynamic nature of self-organizing rural social systems, specifically the features of connectivity, emergence, agency, history, interdependence, co-evolution and learning (Section 6.3). Based on this framework, four additional practical elements to cope with decline were discussed; bifurcations, feedback loops and feedback controls, and emergency adaptations (Section 8.5). These elements facilitated the identification of planning recommendations from a social structure perspective. Also, the framework facilitated a holistic view of the problem of decline and of observation of diverse feedback loops among its diverse components, as well as the intervening forces for change.

9.4 The Role of Networks, Capital and Conflict

The analysis of decline needs to be approached from a structural, multidimensional perspective. More specifically, I argue that decline is caused mainly by societal factors; hence, it has a social structure, whose nature is conflictual, network-based and dynamic. The analyses of networks, capitals and conflicts are key tools to broaden the understanding of decline and they also represent a fruitful approach for improving understanding of contemporary regional development in peripheral rural territories.

1. Networks: Networks are a tangible outcome of the self-organizing properties of the regional system. There are two overlapping processes regarding the social structure in the RRD. One is that, as a result of industrial restructuring, social networks are decaying and ageing, although political and economic power remains concentrated in these networks, which makes difficult for emergent social networks and newcomers to the region accessing existing pools of capitals and networks. The second process is the emergence of social networks in the Region, particularly those linked with First Nations, the agricultural community and environmental activities.

Networks are linked to planning and capitals in two ways. First, emergent networks (e.g. sport and culture) provide the necessary space for socializing, renew social capital, create new links, and maintain their sense of belonging and identity with specific places. Vitality of places emerges precisely from this networking, and is vital in determining social and economic dynamics (see section 5.6.3). Second, networks bring diverse benefits to socio-economic development (e.g. connectivity, information, external resources etc.). Networks can also be planned specifically *for* development purposes. As a result, a combination of existing social networks and new networks created for rural development can offer new and fruitful links between business, civic, and public sectors. It is important to recognize social networks as part of the planning process for rural development, from which they have so far been restrained.

The study of networks facilitates understanding decline. Networks reflect the following features of the regional society. First, networks are the central structure of the rural society. As a result, dynamics of emergent and decaying networks reflect the health of the social system. Networks explain the capacity to recover from crisis, change and adapt to new conditions of the regional environment. Second, networks reflect the level of dependence of the local society and economy on the industrial networks. Finally, the analysis of networks provides elements related to the economy, environment, religion, education, culture, and social structure which are additional factors explaining the differentiated levels of network decay and as a result of population decline in rural regions.

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2. Capital: More than available levels of social, human and institutional capital in a given community, what matters the most is their level of accessibility. High levels of accessibility to diverse forms of capital is, in general, directly proportional to effective responses to crisis (Grootaert & Bastelaer, 2002). Rural communities in the RRD have a high level of social capital. However, the case study confirms that strong, bonding social capital limit access to other forms of social capital increasing conflicts among local actors, decreasing flexibility of local communities to cope with decline, and may reduce local levels of well being, (Jacob, Bourke, & Luloff, 1997). As a result, collaborative processes may be inhibited even in the presence of high levels of social capital, which suggests the complex nature of social capital and its potentially positive and negative effects. Furthermore, this research confirmed that more than high levels of social capital, what matters in declining communities is the way in which it is used and the ability to combine with other capitals (Lin, 2007). However, problems linked with processes of network decay and ageing, and social conflicts deter local capacity of combining diverse forms of capitals. Finally, migration and economic uncertainty processes are eroding different forms of capitals in the RRD, considerably affecting the local capacity to react and change. Further evidence in this research showed how social capital can be positive or negative and can either foster or inhibit rural development.

3. Conflict: Conflict is and will be an integral part of the planning process for sustainable development because of the permanent confluence of actors and institutional interests for the pursuit and balance in the three goals of environmental protection, social equity and economic development (Campbell, 1996). The primarily conflict areas in the RRD include a tension between towns and reserves, and competition among towns. Causes of these conflicts include historical and political economy roots, as well as structural violence created from higher levels of government and global processes. Combined with the current regional crisis these conflict situations facilitate decline and produce three cumulative effects. One is the concentration of diverse capitals within specific social groups or cliques which usually don't trust each other. Low trust levels impede emergence of common initiatives oriented to regional development. Second, concentration of diverse forms of capital in specific cliques excludes vulnerable social groups and new actors in the region from accessing those networks and forms of capital circulating through them. Decay of social networks increases this effect. In general, these effects, combined with the impacts caused by global trends and top-down policies, influence rural development and create damaging deprivations in rural communities (Daniels & Walker, 2001). Finally, ethnic diversity in the RRD is an important potential for development which is neutralized by intolerance and lack of cooperation among communities.

Of all the features explored in this research, social networks and the social capital flowing through them are probably the most important. They influence collective action and the consolidation of regional initiatives. Hence, they directly influence sustainability of social subsystems. Networks and Social capital are emergent properties of local society, although closely linked with the natural environment through social, cultural and economic activities. Both function as "the glue" (Putnam, 2000) that facilitates or impedes connectivity among local and regional actors and the combination of other forms of capitals for development purposes. The study of networks, capitals and conflicts suggests that sustainability of rural communities depends not only on the number of individuals living in a region, or on their ability to diversify the economy, but also on their capacity to rebuild or strengthen key factors of the social system such as social networks and institutional structure. Both are elements directly linked to the capacity of collective action. The combination of networks, diverse forms of capital, and social institutions (e.g. trust, autonomy, relatedness and collaboration) is equally important in community development as economic factors, and their erosion can trigger decline. Similarly, social systems need not only to rebuild bridges with natural systems, but also to re-establish social networks within them.

9.5 Planning Approaches and Local Responses to Decline

Through the analysis of social, economic, political and environmental dimensions in the RRD, this research found that there is a bias toward the local over the regional, a productivist paradigm that remains focused on exploitation of natural resources and locked onto old formulas to solve global problems affecting the region, fragmented and poorly coordinated ministerial service delivery for this rural area, out-dated governance systems and a fundamental disregard for indigenous peoples. Regarding planning approaches to address the problem of decline, this research has found two important gaps. The first gap is that the majority of ministerial agencies' service planning does not coincide with the political administrative boundaries of the RRD. First Nations also plan for a territory, created with the Treaty No.3, which goes further the boundaries of the RRD. There is also a lack of coordination of actions and investments, and a lack of a common approach to plan for the development of the RRD. The immediate effect is dissipation of efforts and resources and also increasing tensions with municipalities who need to answer to different ministries with different planning and administrative perspectives for the region. It is important to recognize that natural resources are not limited by artificial boundaries, nor by cultural forms of governance. However, implementation of a coordinated planning system among ministerial agencies is necessary. An integrated approach to the region can stimulate innovative solutions to address regional decline, facilitate step municipal planning towards regional planning, to create an endogenous development

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agenda (based on networking among local actors) and to more effectively coordinate ministerial services in support for rural communities, as well as rural planning and policy. Thus, rural development in the RRD, and generally in Northwestern Ontario, must be seen as a territorial and not a sectorial issue. Integrated development activity, supported at a territorial level, is meaningful for people in terms of their culture and identity, networks, participation and production and consumption activities.

The second gap refers to municipal planning. This research evaluated the ten official plans in the RRD and analyzed the general characteristics of the planning process. Diverse weaknesses in this process led this research to conclude that there is an overall gap in planning and a prevalence of informal institutions to guide decision-making in relation to rural development. Four central elements affect planning processes in the region: a) lack of public participation; b) limited use of official plans, whose function is usually replaced by disconnected and episodic planning events, that usually fade or are not formally recognized by councils and communities; c) a contradictory role of the MMAH which limits its actions to a lengthy verification of the availability of official plans, but does not address their quality and potential to address decline. Patronizing small communities in this realm is one of the main causes of the planning gap in the RRD.

Local and regional economic and political elites are filling this gap and maintaining a structure that favours traditional forms of work and a mono-industrial economy. Thus, on the one hand the planning gap extends the process of decline while also it hinders emergent processes and trends that could work endogenously to facilitate a regional process of sustainable development. The prevalent discourse that favours the attraction of new resource-based industries, conflict and competitiveness, enhanced by historical, power and governance factors increases the complexity of this situation. In this way, the growth phase of the regional system, relying on the commoditization of natural resources, is artificially extended, and reorganization of the region postponed. All these elements are obstacles to embrace change and attempt collective initiatives to transform the mono-industrial nature of the regional economy.

Regarding forms of adaptation to decline, this research verified the factors of uncertainty and instability, linked to primary sector, suggested by Krannich & Luloff (1991:9), as well as additional quantitative factors related to economics and demographics suggested by Bourne, (2003a; , 2003b), and Polese and Shearmur (2006), all of them working to limit sustainable responses by communities. The analysis found four additional obstacles limiting the capacity of rural communities to advance sustainable development and linked to the region as a self organizing system: Learning and

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interaction, cooperation and connectivity. Additionally, a series of psychological and institutional factors hinders the capacity of rural communities to react to decline, to change, and to escape from the process of path dependence. Communication, conflict transformation, and educational processes are important initiatives to approach communities and facilitate the creation of collective action to face decline.

9.6 Policy and Planning Implications and Recommendations

The prevailing forms of bonding social capital in local networks, low levels of trust and conflicts among communities, and other problems related with connectivity and learning, limit the propensity of top-down initiatives to cope with decline. Answers and strategies need to be devised endogenously and devised collaboratively by all actors in the region (individuals, organizations and government agencies). Based on conflict theory (Lederach, 1997), complexity theory (Mittleton, 2003) and new regionalist approaches (Healey, 1997; Pastor, Benner, & Rosner, 2006), this research proposes an alternative way to address decline. This approach includes learning from past failures, promoting intercommunity and intercultural cooperation and communication, giving voice to the grassroots and regional minorities and transforming conflicts. This alternative way can potentially address diverse issues and claims and also transform cultural referents in regional relational networks. Finally, it offers the opportunity to transform planning practice, to create a new practice of public participation, to democratically debate regional development, and to lay foundations for a long-term shift in power relations, so as to aid regional development. More concretely this study suggests three connected groups of elements to approach decline in the RRD:

1. Addressing the planning gap: This research highlights the importance of the planning process, and emphasise the need for a regional planning approach. Filling the policy and planning gap existing in the RRD is the first step to enhance emergent positive transformations and ameliorate negative externalities caused by declining networks and restructuring industries.

2. Creation of an enabling infrastructure: This infrastructure suggests how to proceed. It starts with mapping of institutions and networks, initiated in this research, and analysis of their influence on structure and agency. This infrastructure facilitates transformation of conflicts, encourages tolerance, promotes renewal, and enhances local capacity to combine social, economic, and natural capital. This infrastructure also requires selecting a theme to call for action and create a permanent discussion about rural development in the region.

3. The region as a complex evolving social system: The model presented in Figure 6.1 can be used to key feedback loops changes in the social structure and economy, so as to orient regional planning and initiatives. The systemic approach encourages innovation, through a variety of initiatives, to find possible bifurcations and face decline. It also suggests promoting a learning process about the region and its socio-economic, ecological and political structures, improving the connectivity and communication among actors, preparing new

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leaders, invigorating public participation and local politics, and reducing fear of change and denial.

Taken together, these three groups of elements constitute the initial approach to address the problem of decline in the RRD.

When analyzing the role of capitals and networks in the process of decline, one can distinguish between two groups of capital and networks that help cope with decline and improve communities' wellbeing. The first group are natural capital and networks, and socio-cultural and institutional capitals and networks. They help agency by supporting actors to improve performance, meet individual needs and reinforce a sense of belonging. This group also helps to retain people in the region and can potentially attract new immigrants. The second group are build and financial capital, and industrial and political networks. They help communities to improve their economic structure, to enhance their collective action, and to enable expansion of the regional economy. When planning for decline, planners need to include policies oriented to enhance and steer simultaneously these two groups of capitals and networks.

It is important to increase the awareness of the existence of the mechanisms of capitals and networks and the possibility to influence them through social agency. In this regard, this research also described potential positive and negative effects that can be generated by social capital, networks, and connectivity. When planning for decline, a detailed analysis of socio-economic indicators, combined with a close depiction of capitals, networks and conflicts can offer a wider picture to take more appropriate decisions in the policy and planning realms.

Decline affects the whole society in the region as a result of its structural nature. However, this research has found that decline primarily affects vulnerable people. Workers with families, and people with limited skills, connections, and education are obliged to remain because they cannot sell their properties or they are forced to commute to a job or to go back to school, increasing stress levels in the families. Shrinking budgets also make municipalities reduce social services (e.g. recreation, schools), a move which primarily affects those who cannot afford these services from the private sector. The analysis of social and human capitals helps to characterize the region's socio-demographic diversity, rather than simply counting how many people remain. Distributional consequences of decline and development must be not overlooked at the regional and community level.

Intrinsic values of diverse forms of capital are only realized through human agency, and its capacity to mobilize them through social networks. In turn this process rests on the precondition that

communities recognize this mechanism and cooperatively act to influence it through pertinent and efficient combinations of forms of capital. More than the levels of available capital, the ability to combine and mobilize them is what matters the most.

An additional group of simple but important planning steps remains to be taken. One is the requirement to expand the vision beyond stand alone projects. Ignoring this diminishes attention on the relationship between the social and the natural systems as an axis were the real potential of the region lies. This relationship also represents a potential exit from commodity cycles, deregulation, industrial restructuring and imperfect international markets. Second is the need to initiate planning for the region, leaving behind sectorial, episodic, and instrumental uses of planning as well as disconnected service provision. Third is the need to stop working on conflict resolution and walk towards the creation of an enabling infrastructure (detailed in Chapter 8) as a social platform to initiate transformation of conflicts as a force for positive change. All the three elements are long-term perspectives that must be connected with a common (although not necessarily fixed) vision for the region, created through public participation.

Finally, this research illustrates the link between places and social networks. Decay or elimination of social networks will have immediate effects on the landscape in which they are developing since networks have a corresponding spatial dimension. These links, illustrated in Chapter 5, also show the mechanism that links people to places. Moreover, rural communities are linked to places and landscapes in several ways and at multiple levels of local belonging. From this perspective, sense of place has socio-cultural and geographical connotations with important implications when planning for decline. The RRD Case Study illustrates this multilayered mechanism of belonging and social interaction that must be addressed in policy contexts so as to facilitate and enhance connectivity and collective action.

9.7 Future Research

Diverse new research directions emerged from this study. Among the most important, are these:

1. Apply the conceptual framework designed to guide this research to other cases of declining regions to further elaborate on the transferability of these research findings.

2. Study the differences between declining communities in rural regions located in countries with developed and developing economies.

3. Conduct a systematic review of territorial development approaches in order to inform best practice methods for future interventions and form a consensus on the essential principles and practices that underpin regional approaches to decline.

4. Further explore the conceptual model of decline and explore additional variables and factors intervening in the process of decline.

9.8 Conclusions

The focus of this research was on the comprehensive analysis of the problem of decline and the role of networks, capital and conflict in the transformation of this phenomenon. The research design was qualitative and based on one case study, the Rainy River District. The main findings include:

The conceptual framework laid the propensity to explore and explain complex and network based nature of decline of resource-based communities, and the significant role of networks, capital and conflicts in such process. Networks, capital and conflicts can speed up or slow down the process of change. Potentially, they can be transformed and used when planning for decline to steer the process toward alternative sustainable processes of rural development. These three concepts provide scholars of rural planning and development with a tool to improve approaches, planning, and policy when planning for decline. Further evidence is provided by diverse cases in Europe, Australia and USA.

There is a generalized planning gap in the RRD and across Northwestern Ontario. Top-down planning and policy initiatives do not recognize this gap and gloss over the need to approach decline and more generally rural development from the local perspective and grassroots initiatives of rural people and communities. The complexity of decline demands a regional planning strategy that orients communities in the current transition process. This planning strategy recognizes the complexity of the problem of decline, considers uncertainty resulting from the combination of internal (e.g. conflicts, difficult access to capital, and decaying networks) and external factors (e.g. top-down policies, commodity cycles, and industrial restructuring), and includes at least six elements that will enhance resilience of social systems. First, a cooperative regional planning process based on a close connection among local actors, organizations and government agencies. Second, promotion of cooperation and collective action through incentives and policies oriented to regional development initiatives. Collective initiatives will facilitate a learning process through the improvement of knowledge about the region and its socio-economic, ecological and political structures. Third, implementation of education and communication initiatives oriented to prepare new leaders, invigorate public participation and local politics, and reduce fear to change and denial. Fourth, creation of an enabling infrastructure is a key step to start transforming conflicts, encouraging

tolerance and trust, promoting renewal and connectivity, and capacity for collective action. Fifth, creation of incentives for emerging networks will improve flow and access to diverse forms of capital. Recovery of networks and their use to plan for development will help recover trust, leadership and embrace change and disturbance rather than denial. Finally, monitoring feedback loops between structure and agency will facilitate the identification of feedbacks leading to undesirable change as well as feedbacks facilitating bifurcations and diverse forms of adaptation. Monitoring this process at the regional scale will facilitate identification of initiatives and policies for innovation, new forms of work, and convenient bifurcations to escape the path-dependence processes.

In the theoretical realm, this research found several elements. First, rural regions, ethnicity, and political and economic power, are elements insufficiently recognized by the overarching framework of New Regionalism. Extension of this framework to include these elements can benefit planning theory and practice oriented to rural planning and development. Second, a central approach in the literature about decline is based on economic-demographic "size type" indicators. This research demonstrated that those do not sufficiently explain the complex, multidimensional, network based, conflictive and highly politicized nature of decline. Public policies based on these "size- type" indicators are misleading and can reinforce the path dependence process of mono-industrial rural communities. To complement this approach, this research suggests considering the variables of learning, interaction, connectivity and cooperation. Third, all networks, capital and conflicts have a structural and relational nature, which is in turn transmitted to the problem of decline. As a result, the study of decline is a fruitful field to catalyze interaction among these theories. Decline, as a socially constructed phenomenon, can be planned and transformed through local agency, further evidence is provided in the fields of networks (Erickson, 2001; Grootaert & Bastelaer, 2002), capital (Cocklin & Alston, 2003; Flora & Flora, 2004; Lin, 2007) and conflicts (Burton, 1997; Lederach, 1997). Fourth, the analysis of networks and planning offers a mutually reinforcing approach, useful for the study and planning of rural development problems. Networks are at the core of collective action, so that the principles of collaborative planning and network theories can be recreated and combined with them to advance the understanding and prescriptions of normative forms to plan in declining contexts.

Decline in the RRD and more generally in Northern Ontario need to be approached with special attention to factors of ethnicity. Significant levels of structural violence against First Nations remain in rural regions. The creation of a regional planning institution, would serve to embrace existing actors (e.g. communities, public, and private organizations) and facilitate the process of planning for decline. Part of this initiative would include the development of a regional monitoring system to follow up on the evolution of the process of decline. This system would be based on a

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further development of the qualitative model suggested in chapter 6. As part of this process the promotion of a collaborative approach to plan for the region is necessary. This collaborative approach need to be based on a coordination of policies and plans promoted by all levels of government.

Specific obstacles hindering sustainable development, and related to insufficient learning, connectivity, cooperation, and capacity for change need to be addressed. Understanding the region as a CESS is a useful approach to facilitate the identification of elements that prolong decline and to identify existing opportunities to advance towards sustainable development. To facilitate this process a series of steps to put in place an enabling infrastructure for the region is described in Chapter 8. A central point of this mechanism is the necessary consideration of the multi-scale and short, medium- and long-term actions to create a cooperative and integrated response to decline. Moreover, decision making processes need to promoting a sense of place and a sense of belonging to retain and attract population. They also need to promote and expand knowledge about the history of the region, culture, and environment and to further identify links between networks and places. Current initiatives should be promoted that are oriented to self-sufficiency, "eat local", agricultural place-branding, value added manufacturing, development of regional markets, and technologically based initiatives such as bio-energy and biotechnology. Related to this is the enhancement of technological development emerging in the region through connecting and communicating among current initiatives. Environmental networks need to be dedicated to the preservation and protection of the natural environment, culture and historical regional assets. Further international networks and potentials for international agreements need to be explored. They should be oriented towards the consolidation of a strategy for ecotourism.

9.9 Main Contributions of this Research

There are four contributions from this research. The central contribution of this research is the combined application of the social network theory, conflict theory, capital theory and complex systems theory to the study of decline in rural resource-based communities. Based on the results from the Case Study, three additional components are proposed to be considered for the study of decline: *networks, capital and conflicts*. These elements capture the complex and dynamic nature of decline and work as methodological and interpretative tools to study and approach decline in rural regions.

The second contribution consists on the construction of a multidimensional reading of a declining rural region. This approach captures the complexity of the problem of decline, its multidimensional and multi-scalar nature, and facilitates the identification of historical factors and regional reorganizations that help explain and understand the process of decline.

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The third contribution is verification of the factors of uncertainty and instability, linked to the primary sector, suggested by Krannich & Luloff (1991:9), as well as the quantitative factors related to economics and demographics suggested by Bourne, (2003a , 2003b), and Polese and Shearmur(2006), all of them working as limiting factors in the capacity of rural communities to respond sustainably to decline. Five additional factors are proposed for addition to this framework: learning, interaction, cooperation, connectivity, and a series of psychological and institutional factors that hinder the capacity of rural communities to react to decline, change and escape from process of path dependence.

The fourth contribution is a suggestion to enhance the framework of New Regionalism by considering the study of rural regions, so as to complement the literature about decline by recognizing the complexity of the problem of decline and including new variables of analysis, and enhance planning theory by more decisively adopting the framework of social networks.   These new variables of analysis fill the gaps of NR theory identified in Chapter 2, and include seven key elements: First is recognition of the importance and role of rurality and small communities in regional development processes. Second is recognition of the role of ethnicity and culture and more generally a wider approach inclusive of the multiple dimensions and systems involved in territorial development. Third is focus on connectivity, conflict transformation and public participation to avoid inequities and address regional disparities. Fourth is promotion of collective action and social networks to address the shrinking role of the state, enhance rural governance systems and develop the framework of innovation, inclusivity and associationalism that NR promotes. Fifth is consideration of informal institutions as a way to address issues of politics and power as key factors at play in regional development processes. Sixth is consideration of the role that networks, social capital, collective action and connectivity play in regional development. Finally is the introduction of social networks as new planning tools to facilitate a structural analysis of rural social systems.

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Appendices

Appendix I.1 Competitive Advantage - Sector Classification. Period: 2001 to 2006								
Industry (NAICS)	Prov. Sector % Growth	#jobs2001	#jobs2006	Local % Growth	LQ 2006	Prov. SRG	Local SRG	Carvalho
11 - Agriculture, forestry, fishing and hunting	-9.18	430	435	1.16	2.81 (high)	Lagging(-)	Leading(+)	Evolving
21 - Mining and oil and gas extraction	18.05	30	15	-50	0.45 (low)	Leading(+)	Lagging(-)	Modest
22 – Utilities	4.6	130	110	-15.38	1.62 (high)	Lagging(+)	Lagging(-)	Challenging
23 – Construction	8.15	375	345	-8	1.26 (high)	Leading(+)	Lagging(-)	Promising
31-33 – Manufacturing	-9.15	1,595	1,290	-19.12	1.01 (medium)	Lagging(-)	Lagging(-)	Vulnerable
41 - Wholesale trade	9.08	185	185	0	0.44 (low)	Leading(+)	Lagging(0)	Modest
44-45 - Retail trade	5.62	1,230	995	-19.11	0.98 (medium)	Lagging(+)	Lagging(-)	Vulnerable
48-49 - Transportation and warehousing	5.96	230	255	10.87	0.73 (low)	Lagging(+)	Leading(+)	Moderate
51 - Information and cultural industries	-0.43	135	85	-37.04	0.36 (low)	Lagging(-)	Lagging(-)	Marginal
52 - Finance and insurance	7.62	190	255	34.21	0.55 (low)	Leading(+)	Leading(+)	Rising
53 - Real estate and rental and leasing	14.51	100	95	-5	0.54 (low)	Leading(+)	Lagging(-)	Modest
54 - Professional, scientific and technical services	8.97	175	145	-17.14	0.22 (low)	Leading(+)	Lagging(-)	Modest
55 - Management of companies and enterprises	2.53	10	0	-100	0.0 (low)	Lagging(+)	Lagging(-)	Marginal
56 - Administrative and support, waste management and remediation services	19.22	165	135	-18.18	0.4 (low)	Leading(+)	Lagging(-)	Modest
61 - Educational services	13.95	665	790	18.8	1.31 (high)	Leading(+)	Leading(+)	Driving
62 - Health care and social assistance	14.57	1,140	1,360	19.3	1.56 (high)	Leading(+)	Leading(+)	Driving
71 - Arts, entertainment and recreation	13.6	110	110	0	0.61 (low)	Leading(+)	Lagging(0)	Modest
72 - Accommodation and food services	6.55	740	850	14.86	1.49 (high)	Leading(+)	Leading(+)	Driving
81 - Other services (except public administration)	9.18	310	410	32.26	1.0 (medium)	Leading(+)	Leading(+)	Accelerating
91 - Public administration	13.39	650	800	23.08	1.55 (high)	Leading(+)	Leading(+)	Driving

Source: Statistics Canada Various Censuses

NAICS-North American Industry Classification System
Provincial Sector Employment Growth - is the percentage change provincially in the sector between the two time periods.
#jobs2001 – 2006 Number of local jobs in this sector in the years 2001 and 2006.

Local Sector Employment Growth - is the percentage change locally in these sectors between the two time periods.

Location Quotient (LQ) - is a measure of employment specialization or strength, based on the concentration of employment as compared to the provincial norm. The LQ calculation is: % of local employment in the sector, divided by % of provincial employment in the sector. LQs are described as: Very High if over 5.0, High if between 1.25 and 5.0, Average if 0.75 to 1.25 and Low if less than 0.75.

Provincial Sector Relative Growth (PSRG) - this value indicates whether the sector's growth at the provincial level was higher or lower than the overall provincial growth rate. A (+) sign beside the descriptor indicates that the sector grew in employment, while a (-) sign indicates that the sector declined in employment and (0) indicates that employment stayed constant during the period of the analysis

Local Sector Relative Growth (LSRG) - this value indicates whether the local sector's growth was higher or lower than the sector's growth at the provincial level. A (+) sign beside the descriptor indicates that the sector grew in employment, while a (-) sign indicates that the sector declined in employment and (0) indicates that employment stayed constant during the period of the analysis.

Carvalho Classification - this classification system is based on a combination of Location Quotient, PSRG and LSRG. There are 12 descriptive categories which may indicate the sectors that require attention or further investigation.

Appendix I.2: RRD Labour Flow Analysis - Local Jobs versus Employed Resident Labour Force 2006								
Industry (NAICS)	# Employed in Ontario	Jobs	Labour Force	Commuting to Work	LQ - Jobs	LQ - Jobs Level	LQ - Labour Force	LQ - Labour Force Level
11 Agriculture, forestry, fishing and hunting	99,825	435	650	-215	2.8	High	3.67	High
21 Mining and oil and gas extraction	21,485	15	70	-55	0.45	Low	1.77	High
22 Utilities	43,900	110	115	-5	1.61	High	1.45	High
23 Construction	176,115	345	700	-355	1.26	High	1.19	Average
31-33 Manufacturing	826,440	1,290	1,370	-80	1	Average	0.99	Average
41 Wholesale trade	273,795	185	190	-5	0.43	Low	0.4	Low
44-45 Retail trade	656,575	995	1,020	-25	0.97	Average	0.92	Average
48-49 Transportation and warehousing	225,505	255	455	-200	0.73	Low	0.94	Average
51 Information and cultural industries	152,225	85	80	5	0.36	Low	0.3	Low
52 Finance and insurance	300,920	255	270	-15	0.54	Low	0.54	Low
53 Real estate and rental and leasing	114,450	95	100	-5	0.53	Low	0.5	Low
54 Professional, scientific and technical services	416,400	145	150	-5	0.22	Low	0.2	Low
55 Management of companies and enterprises	7,705	0	10	-10	0	Low	0.76	Average
56 Administrative and support, waste management and remediation services	219,765	135	190	-55	0.39	Low	0.41	Low
61 Educational services	388,370	790	830	-40	1.31	High	1.22	Average
62 Health care and social assistance	563,265	1,360	1,435	-75	1.55	High	1.48	High
71 Arts, entertainment and recreation	117,075	110	130	-20	0.6	Low	0.61	Low
72 Accommodation and food services	367,640	850	915	-65	1.49	High	1.47	High
81 Other services (except public administration)	265,730	410	490	-80	0.99	Average	1.04	Average
91 Public administration	333,680	800	895	-95	1.54	High	1.62	High

Source: Statistics Canada Various Censuses

NAICS Classification - NAICS stands for the North American Industry Classification System. It is a hierarchical classification system, with a number assigned to each sector and sub-sector. The major sectors have fewer digits in their number (typically 2 digits), while sub-sectors have increasing numbers of digits as the degree of specificity increases.

 # Employed in Ontario - total employment for the resident labour force in Ontario, for these industries.

Jobs - number of people employed by local industries; workers may or may not be residents of the municipality.

Labour Force - number of local residents employed in the sector, whether or not they work in the municipality.

Commuting to Work: Net Export (-) or Import (+) of Labour - this is calculated by subtracting the resident employed labour force value from the value for local jobs. If the number of local jobs is fewer than the number of residents employed in a particular sector, then the resulting value would be negative, indicating that local residents are commuting outside the community to work.

Appendix I.3 Community Profile by Business Concentration for Selected Municipalities in the RRD 2007																
Industry (NAICS)	# Bus. in sector (local)				% of local businesses				Concentration per capita				Concentration, sector mix			
Selected Towns	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
11 - Agriculture, forestry, fishing and hunting	40	67	62	19	15.4	10.2	28.4	22.4	1.9	1.3	7.3	3.2	3.5	2.4	6.5	5.1
21 - Mining and oil and gas extraction	2	2	0	0	0.8	0.3	0.0	0.0	2.8	1.1	0.0	0.0	5.2	2.1	0.0	0.0
22 – Utilities	3	3	0	2	1.2	0.5	0.0	2.4	5.4	2.2	0.0	13.1	10.3	4.1	0.0	20.9
23 – Construction	20	71	27	10	7.7	10.8	12.4	11.8	0.3	0.5	1.2	0.6	0.6	0.9	1.0	1.0
31-33 – Manufacturing	11	21	6	1	4.2	3.2	2.8	1.2	0.5	0.4	0.7	0.2	1.0	0.7	0.6	0.3
41 - Wholesale trade	7	17	10	2	2.7	2.6	4.6	2.4	0.3	0.3	1.0	0.3	0.5	0.5	0.9	0.4
44-45 - Retail trade	34	75	19	15	13.1	11.5	8.7	17.6	0.7	0.7	1.0	1.2	1.4	1.2	0.9	1.9
48-49 - Transportation and warehousing	23	55	28	0	8.8	8.4	12.8	0.0	0.9	0.8	2.7	0.0	1.6	1.6	2.4	0.0
51 - Information and cultural industries	2	8	1	1	0.8	1.2	0.5	1.2	0.3	0.4	0.3	0.5	0.5	0.7	0.3	0.7
52 - Finance and insurance	8	19	3	0	3.1	2.9	1.4	0.0	0.3	0.3	0.3	0.0	0.6	0.5	0.3	0.0
53 - Real estate and rental and leasing	14	46	8	1	5.4	7.0	3.7	1.2	0.3	0.4	0.5	0.1	0.6	0.8	0.4	0.1
54 - Professional, scientific and technical services	7	37	3	5	2.7	5.6	1.4	5.9	0.1	0.2	0.1	0.2	0.2	0.3	0.1	0.4
55 - Management of companies and enterprises	5	22	3	0	1.9	3.4	1.4	0.0	0.3	0.5	0.4	0.0	0.5	0.9	0.4	0.0
56 - Administrative and support, waste management and remediation services	11	23	8	0	4.2	3.5	3.7	0.0	0.5	0.4	0.8	0.0	0.9	0.7	0.8	0.0
61 - Educational services	7	11	0	1	2.7	1.7	0.0	1.2	1.3	0.8	0.0	0.7	2.4	1.5	0.0	1.0
62 - Health care and social assistance	11	39	4	5	4.2	6.0	1.8	5.9	0.5	0.8	0.5	0.9	1.0	1.4	0.4	1.4
71 - Arts, entertainment and recreation	7	17	1	2	2.7	2.6	0.5	2.4	0.8	0.8	0.3	0.8	1.4	1.4	0.2	1.3
72 - Accommodation and food services	23	62	18	8	8.8	9.5	8.3	9.4	1.1	1.2	2.1	1.3	2.0	2.2	1.9	2.1
81 - Other services (except public administration)	24	52	15	9	9.2	7.9	6.9	10.6	0.7	0.6	1.1	1.0	1.4	1.2	1.0	1.6
91 - Public administration	1	8	2	4	0.4	1.2	0.9	4.7	1.6	5.3	8.2	23.5	3.1	9.7	7.3	37.3

Source: Statistics Canada (2007)

Selected Municipalities: I) Atikokan, II) Fort Frances, III) Emo, IV) Rainy River
 # Businesses in sector (local) - represents the total of all registered businesses in a particular sector/industry.
% of Businesses (local) - is the percentage of all registered businesses in the municipality that this sector/industry represents.
Concentration Per Capita - is a ratio of local to provincial businesses per capita and indicates the relative concentration or specialization of businesses in different sectors in the municipality. Values higher than 1.0 indicate that the local economy has a higher per capita number of businesses than the provincial average. **Concentration, Sector Mix** - is a ratio indicating the relative specialization of businesses in different sectors across municipality. Values greater than 1.0 indicate that the local concentration of businesses in a sector, relative to other sectors in the community, is higher than the provincial average, indicating a relative local specialization in that sector.

Appendix II. Plan Evaluation

The evaluation of municipal plans included the analysis of the Official Plans documents and interviews with Mayors, Chief Executive Officers and the MMAH representative in Thunder Bay.

I. INTERNAL PLAN QUALITY CRITERIA										
CRITIERIA	**MUNICIPALITY**									
	Atikokan	**Fort Frances**	**Alberton**	**La Vallee**	**Emo**	**Barwick**	**Morley**	**Dawson**	**Rainy River**	**Lake of the Woods**
1. Issues and Vision Statement										
Categories: 0=Not identified, 1=Vague, 2=Detailed										
1.1. Assessment of major trends and impacts of change	1	0	0	0	1	1	0	1	1	0
1.2 Description of windows of opportunity and threats	1	0	0	1	1	0	0	0	1	1
1.3 Review of local government problems and issues	1	0	0	0	1	0	0	1	1	0
1.4 Vision statement	0	0	0	0	0	0	0	0	0	0
2. Fact Base										
Categories: 0=not identified, 1=vage, 2=clear, relevant										
2A. Key Features of Local Planning Jurisdiction										
2A.1 Present and future population and economy	1	0	0	1	1	0	1	1	1	1
2A.2 Existing and future land use, and land supply	1	1	1	1	1	1	1	1	1	1
2A.3 Evaluation of build capital: existing and future needs for community facilities and infrastructure	0	0	0	0	0	0	0	0	0	0
2A.4 Evaluation of natural capital: natural assets, vulnerable resources and physical constrains to land use	1	0	0	1	1	1	1	0	1	1
2B. Techiques used to identify and explain facts										
2B.1 Maps included to display information	1	0	0	0	1	0	0	1	1	0
2B.2 Tables aggregating relevant data	0	0	0	0	0	0	0	0	0	0
2B.3 Application of facts to explain issues and trends	0	0	0	0	0	0	0	0	0	0
2B.4 Application of facts to explain policy directions	0	0	0	0	0	0	0	0	0	0
2B.5 Citations and description of methods used	0	0	0	0	0	0	0	0	0	0

2B.7 Adequate use of baseline spatial data and inventories	0	0	0	0	0	0	0	0	0	0
2B.8 Critical use of official projections	0	0	0	0	0	0	0	0	0	0
2B.9 Links between projections and policies explained	0	0	0	0	0	0	0	0	0	0

3. Goal and Policy Framework
Categories: 0=none, 1=some, 2=most

3.1 Goals clearly stated	2	1	2	2	2	2	2	2	2	2
3.2 Policies linked to specific goals	0	0	0	1	0	0	0	0	0	1
3.3 Policies linked to specific actions	0	0	0	0	1	0	0	0	0	0
3.4 Strenght of policies (mandatory vs. suggestive)	1	1	0	1	1	1	1	1	1	1

4. Plan Proposals

4A. Spatial Design Key Features

4.A1 Future land use plan	0	0	0	0	0	0	0	0	0	0
4.A2 Land use areas related to transportation proposals	1	1	2	1	1	1	1	1	1	1
4.A3 Land use areas related to water/sewer proposals	1	1	2	1	1	1	1	1	1	1
4.A4 land use areas related to future growth/decline	0	0	0	0	0	0	0	0	0	0
4.A5 Land use areas vs landscape features	0	0	0	0	0	0	0	0	0	0

4B. Identification of Implementation Activities

4B1 Actions for implementing plans	0	0	0	0	0	0	0	0	0	0
4B2 Timelines for implementing and updating plans	0	0	0	0	0	0	0	0	0	0
4B3 Actors with reponsibility to implement policies	0	0	0	0	0	0	0	0	0	0
4B5 Identificationof Sources of funding	0	0	0	0	0	0	0	0	0	0

4C. Monitoring

4C.1 Definition of indicators for each objective	0	0	0	0	0	0	0	0	0	0
4C.2 Goals quantified and based on measurable objectives	0	0	0	0	0	0	0	0	0	0
4C.3 Identification of Actors participating in monitoring	0	0	0	0	0	0	0	0	0	0
4C.4 Actions linked to monitoring changing conditions	0	0	0	0	0	0	0	0	0	0

5. Elements encouraging plan use

Categories: 0=not identified, 1=vague, 2=clear

5.1 Is the plan imaginative, offering compelling courses of action that inspire people to act?	0	0	0	0	0	0	0	0	0	0
5.2 Available and clearly articulated, action-oriented agenda	0	0	0	0	0	0	0	0	1	0
5.3 Description of alternatives to deal with forces of change	0	0	0	0	0	0	0	0	0	0
5.4 Description of the legal context	1	0	0	1	1	1	1	1	1	1
5.5 Description of administrative authorities for planning	1	0	0	1	1	1	1	1	1	1

6. Structure of Plans

Categories: 0=not identified, 1=vague, 2=clear, relevant

6.1 Detailed table of contents	2	2	0	2	2	2	2	2	2	2
6.2 Glossary of terms and definitions	2	0	0	2	2	2	2	2	2	2
6.3 Executive summary	0	0	0	0	0	0	0	0	0	0
6.4 Cross-referencing of issues, goals, objectives and policies	0	0	0	0	0	0	0	0	0	0
6.5 Clear and plain use of language	2	2	2	2	2	2	2	2	2	2
6.6 Clear illustrations	0	0	0	0	1	1	0	1	1	0
6.7 Spatial information illustrated with maps	1	0	0	1	1	1	0	1	1	1
6.8 Supporting documents included with the plan	1	1	1	1	1	1	1	1	1	1

7. Descriptions of Interdependent Actions in Plan Scope

Categories: 0=not identified, 1=vague, 2=clear

7.1 Horizontal connections with other plans and programs	0	0	0	0	0	0	0	0	0	0
7.2 Description of vertical connection with other municipal plans	0	0	0	0	0	0	0	0	0	0
7.3 Description of inter-sectorial coordination for providing services, protecting ecosystems and mitigating natural hazards	1	1	1	1	1	1	1	1	1	1

8. Public Participation

Categories: 0=not identified, 1=vague, 2=clear, relevant

8.1 Description of actors involved in the planning process	0	0	0	0	0	0	0	0	0	0
8.2 Description of motivations for participation	0	0	0	0	0	0	0	0	0	0
8.3 Description of representativeness of participant actors	0	0	0	0	0	0	0	0	0	0
8.4 Description of participation techniques used	0	0	0	0	0	0	0	0	0	0
8.5 Description of participation in prior planning activities	0	0	0	0	0	0	0	0	0	0
8.6 Description of plan's effects on the community	0	0	0	0	0	0	0	0	0	0
8.7 Description of participating public agencies	0	0	0	0	0	0	0	0	0	0
8.8 Description of inputs from stakeholders	0	0	0	0	0	0	0	0	0	0

OVERALL MAXIMUM SCORE 116

OVERAL TOTAL	**23**	**11**	**11**	**21**	**25**	**20**	**18**	**22**	**25**	**21**

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Appendix III: A sample of Pictures of Hand-Drawn Network Maps

Picture 1. Atikokan Forestry Network

Picture 2. Atikokan Tourism Network
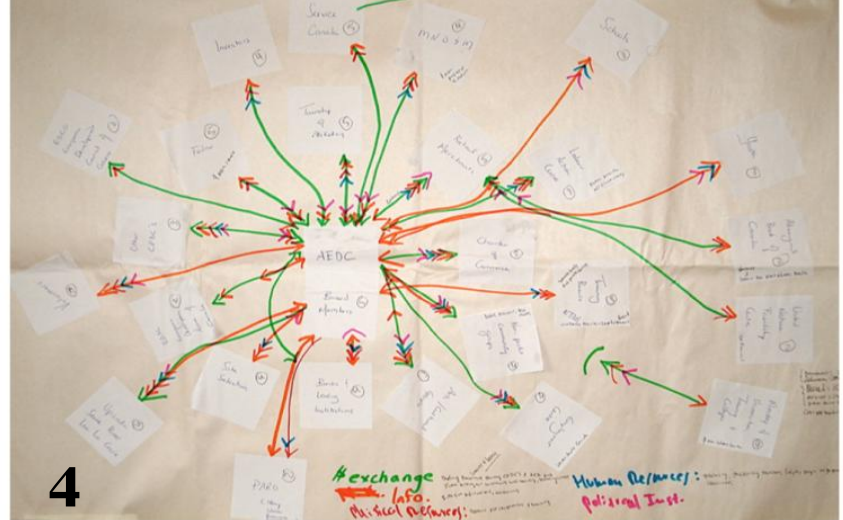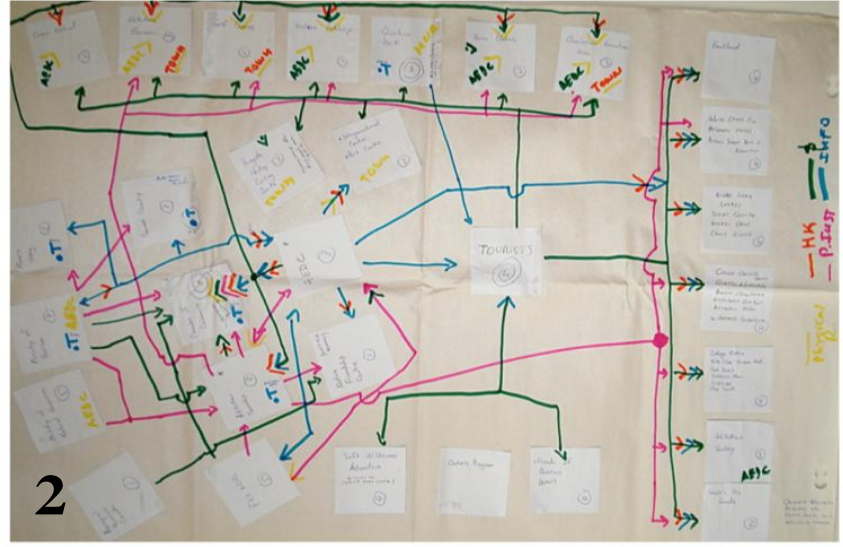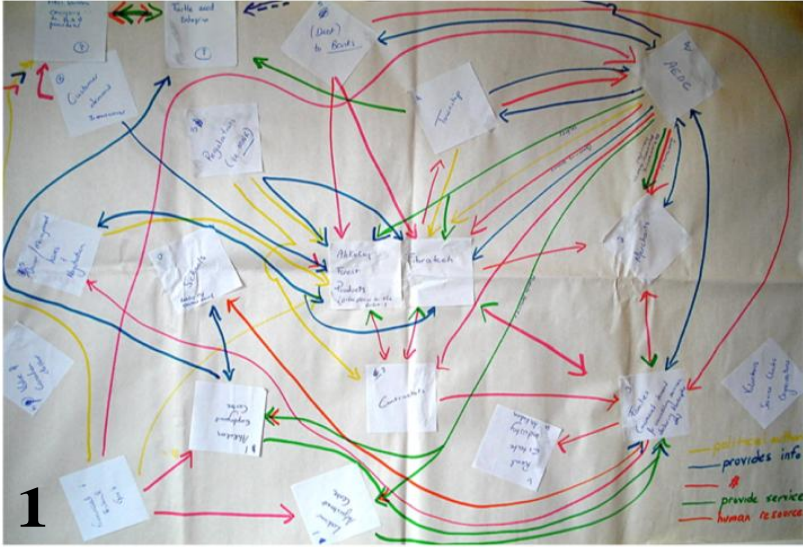
Picture 3. Beaten Path Nordic Ski Club (Atikokan)

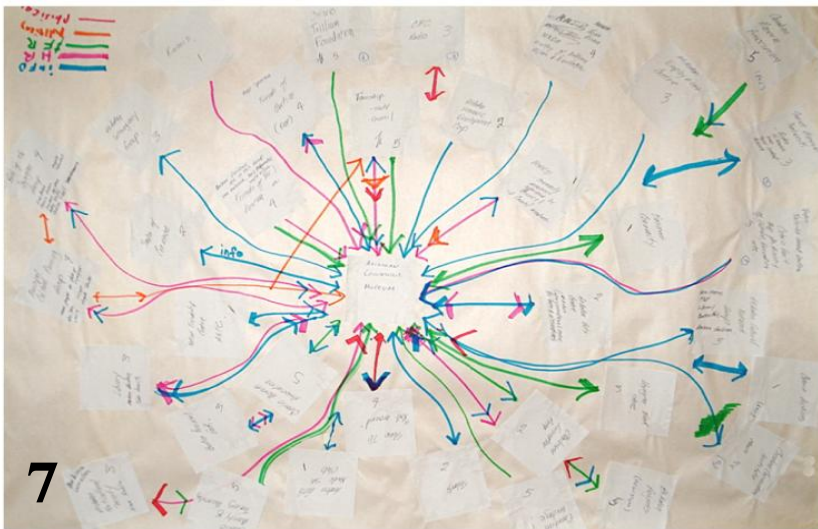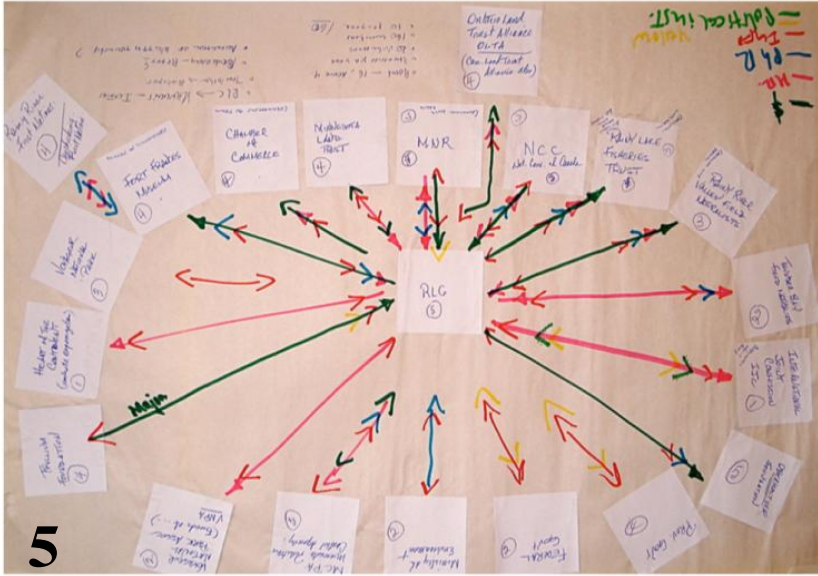Picture 4. Atikokan Economic Development Corporation

Picture 5. Rainy Lake Conservancy network

Picture 6. Fort Frances United Native Friendship Center

Picture 7. Atikokan Centennial Museum

Picture 8. RRD Agricultural Network

Appendix IV. List of Interviews

Institution, sector or activity	Role, business or social activity	No. of Interviews	Total
First Nations	Chiefs Administrative Officers Elders Native Friendship Centers Managers First Nations people working in government institutions	3 3 3 2 5	16
Mills	Mill Managers in Fort Frances, Barwick and Rainy River Former manager of Ainsworth mill Members of unions Mill employees Group interview with operator family Group interview with local operators	3 1 3 1 2 2	12
Farmer community	RRFA OFA Bee Keepers Association Mennonite Community Farmers Agricultural Research Station Group interview with the Cornell Family	1 1 1 2 5 1 4	15
Tourism sector	Tourism operators and hotel managers Leaders of organizations (Nowata)	3 1	4
News papers	3 Editors and 2 reporters	5	5
Environmental organizations	Rainy Lake Conservancy Rainy River Watershed Program Atikokan conservation club	1 1 1	3
Retail and value added manufacturing sectors	Hardware and equipment stores Grocery stores Canoe manufacturing Value added timber manufacturing Computer store Variety (clothes) Emo	2 4 1 1 1 1	10
Real Estate Business	Local real estate managers	2	2
Federal and Provincial Programs	MMAH MNR Fednor Parks Future Development Corporations OMAFRA Labour Adjustment Centers Ken Boschof, MP	1 2 2 1 10 1 2 1	20
Regional Organizations	DSSAB Safety Coalition	4 1	5
Other social institutions and organizations	Atikokan art center Clubs (Kiwanis, The legion, Lions, Ski Clubs) Parent Associations	1 4 3	8
Churches	Pastors and priests	7	7

Young adults	Members of different organizations such as the catholic church, workers in the mill, farmers, student museum assistants (3), students in summer positions etc. (six are counted in other roles)	10	4
School and College Principals	Catholic and public schools School Board Fort Frances Seven Generations Institute Fort Frances college	4 1 1 1	7
Chambers of commerce	Atikokan, Fort Frances and Emo	3	3
Work centers	Atikokan and Fort Frances	2	2
Police and justice services	Police officers in Atikokan and Fort Frances Ministry of child and youth services	2 2	4
Health services	Health units, counselling services, hospitals, and Rainy River Integrated Services North West	6	6
Conferences, meetings and other activities were direct observation was possible	Endangered species act discussions Municipal council meetings AEDC meeting FN Meeting Club's meetings Pow Wows Fairs and farmer markets Fishing Tournaments Farm tours Fundraising Car vintage exposition and car racing Towns and unorganized areas tours Work as a volunteer for The Legion (kitchen helper) Visits to significant regional amenities and sceneries	2 5 1 1 5 2 5 1 1 4 2 8 2 12	
	Total number of interviews (not including focus groups and direct observation activities)		**186**