

AN ABSTRACT OF THE DISSERTATION OF

Solange Nadeau for the degree of Doctor of Philosophy in Forest Resources, presented on  
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Title: Characterization of Community Capacity in a Forest-dependent Community: The  
Case of the Haut-St.-Maurice.

Signature redacted for privacy.

Abstract approved: \_\_\_\_\_

Bruce Shindler

In recent years, economic, social, technological, and environmental changes have all imposed challenges on forest-based communities. This has revived interest in studying these communities to understand their ability to tackle these challenges. This study is built around a case study of an industrial forest-based community and aims at characterizing the community's ability to deal with change. A review of the literature documented the evolution of the frameworks used to examine forest communities and guided the choice of a framework. This case study analysis focuses on community capacity and the research follows two avenues: documenting the evolution of community capacity over time, and assessing residents' opinions on major issues challenging their community's capacity.

A mix of qualitative and quantitative research methods was used to address these questions. Interviews were used to document the evolution of community capacity. They reveal how community capacity was built through community empowerment with regard to social capital and infrastructure development. They also shed light on the constraining effects that stagnant human capital and institutional management arrangements for public lands had on this capacity.

The interviews identified issues challenging the current capacity of the community. A series of questions about these issues was then presented to local residents by means of a mail survey. The survey assessed residents' attitudes and provided information about the degree of agreement within the community on issues associated with community capacity. It reveals the responsiveness of groups within the community, and highlights concerns

expressed by specific groups regarding the hurdles faced either by the community or by themselves in building community capacity.

CHARACTERIZATION OF COMMUNITY CAPACITY IN A FOREST-DEPENDENT  
COMMUNITY: THE CASE OF THE HAUT-ST.-MAURICE.

by  
Solange Nadeau

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**CHARACTERIZATION OF COMMUNITY CAPACITY IN A FOREST-DEPENDENT  
COMMUNITY: THE CASE OF THE HAUT-ST.-MAURICE**

## 1. GENERAL INTRODUCTION

Forests have always been an important asset for Canada. Since the early days of settlement, they have made a significant contribution to the development of the country. Today Canada's forests account for 10 percent of the world's forests and are mostly under public ownership (94%). They make an important contribution to sustaining the economic and social well-being of Canadians, especially those living close to the forests. The forest industry accounts for a large part of this contribution, as it is the largest exporter of forest products worldwide (Canadian Forest Service 1993). In 2000, it was estimated that this industry was responsible for most of the economic activities taking place in some 298 communities in Canada (Canadian Council of Forest Ministers 2000). These communities are not evenly spread across the country: the greatest number of communities heavily reliant on the forest industry are located in the province of Quebec. Early in the 20<sup>th</sup> century, Quebec enacted laws and programs endorsing the development of the forest industry and this led to the establishment of many communities that now have a long history of forest dependency.

For a long time, forest policy in Quebec, as well as in other jurisdictions of North America, emphasized supplying timber to forest industry as a way of ensuring a living for the people depending on that industry. For foresters, the equation was quite simple: a sustained yield of timber would ensure the sustainability of the communities that ultimately depended on that resource. However, the reality of both timber production and forest communities has proved to be more complex than first assumed and, over the years, it became quite clear that a sustained yield of timber would, not by itself, ensure the sustainability of forest communities (Schallau and Alston 1987).

The belief that a sustained timber yield could ensure the future of forest communities was first challenged by studies conducted in the United States (Waggner 1977, Daniels *et al.* 1991, Freudenburg 1992). Research on forest-based communities shed light on the complex relationship between the social and economic spheres within these communities.

Forest-based communities were found to be affected by technological changes, by fluctuations in forest products markets, and by disruptive social patterns. Thus, even though forest managers could rely on a sustainable yield of timber, forest communities remained subject to important social and economic stresses and uncertainties. This pointed out the need for analytical frameworks that would integrate social and economic aspects of forest dependency and opened new paths for research on forest communities.

In the 1990s, studies conducted in the United States proposed such analytical frameworks (Flora and Flora 1993, Bliss *et al.* 1998, Harris *et al.* 1998). Although variations existed, they all emphasized the need to look at a community's ability to solve problems when challenged by changes from either internal or external sources. One of the proposed frameworks was built on the concept of community capacity, and focused on the ability of the community, as a group, to react and respond to changes by using its social and human capital and infrastructure (FEMAT 1993). This concept was used in forest-based communities studies mainly to identify attributes associated with low or high community capacity. Little attention has been given to the evolution of community capacity over time, or to residents' attitudes toward opportunities and challenges faced by their community in adapting to change. Adopting an historical perspective to understand the development of community capacity and looking at people's attitudes towards community capacity appear to be two approaches that could provide useful information to complement community capacity assessments.

First, the historical perspective would contribute to an understanding of the dynamics that produced the actual capacity, and would highlight the endurance of a particular community's assets or liabilities. Such an understanding could provide insights about the scope of the challenge faced by communities when attempting to modify local institutions or residents' behavior and attitudes in order to improve their community's capacity to adapt to changes.

Second, an examination of the attitudes that different groups of residents hold toward issues related to their community's capacity to face change would also improve our understanding. Because residents are a critical determinant of this capacity, their attitudes

towards issues such as employment, infrastructure development, or leadership, are likely to influence the capacity of the community. Taking a closer look at attitudinal differences can provide information on the degree to which concerns about specific issues are spread across the whole community or concentrated in certain groups. It would demonstrate whether any portion of the population faces greater difficulties in contributing to overall community capacity.

The purpose of this dissertation is to identify and assess, in a forest-based community, significant factors that affect community capacity and people's ability to adapt to changing conditions. It is intended to extend our understanding of the dynamic nature of community capacity through time, and to examine residents' attitudes toward key issues associated with community capacity. It will also verify whether the attitudinal differences existing within the community are associated with a specific segment of the population or evenly distributed.

The research is built around a case study, which allowed for a detailed look at the development of community capacity and residents' responsiveness toward local issues. The community studied is the Haut-St.-Maurice, which is located in the middle of the inhabited portion of the province of Quebec, Canada. In the early days of the 20<sup>th</sup> century, the vast public forests of the area attracted the attention of a forest company, which decided to build a pulp mill in the region. Over the years, this mill has remained the main employer for the community, which now hosts close to 13,000 people. The choice of Haut-St.-Maurice for this research was guided by its long history of forest dependency and its isolation from other communities.

The research hypothesis of this study was not based on previous work carried out in the United States. Rather, this previous work was used to develop a flexible research approach that would account for the differences existing between the United States and Canada. Even though the basic definition of what constitutes the capacity of a community to adapt to change remains the same in different social settings, these settings may influence the contribution of each element to community capacity and the dynamic between these elements. The two countries have distinct political, cultural and institutional settings and



Canadians have a tendency to opt for collective policies, such as a more comprehensive social safety net. These differences could mitigate or exacerbate the contribution of a given element in the capacity of forest-based communities. For example, the differences in the pattern of forest ownership, as well as differences in legislation governing the use and management of public forests could affect the role that forest resources play in the community capacity of American or Canadian communities. Thus, the research took an inductive approach in characterizing the community capacity of the Haut-St.-Maurice.

This research involved the community in the capacity assessment, relying largely on data collected directly from local residents. Data collection was conducted in two distinct phases. The first consisted of a series of interviews with key informants to develop knowledge about the community and its residents' perceptions about its ability to cope with change. The second phase was done by means of a mail survey that assessed residents' attitudes toward key issues related to community capacity.

The results of this research are presented in this dissertation as three distinct manuscripts. The first manuscript reviews the research efforts that were undertaken to improve frameworks to assess long-term sustainability in forest-based communities. It presents three recent concepts that have been suggested to study forest-based communities and examines their respective contribution to the assessment of these communities.

The second manuscript provides an assessment of community capacity over time by looking at how the community capacity of Haut-St.-Maurice has evolved over the last hundred years. It examines the contribution of infrastructure, natural resources, and social and human capital to community capacity at different times in its history. The historical perspective helps us see the progress or stagnation of the community in terms of use and development of resources that nurture its ability to deal with changes.

Finally, the third manuscript takes a closer look at the differences in attitudes among residents of the Haut-St.-Maurice regarding key issues impacting their community's capacity to face change. The quantitative data used in this part of the study were also used to identify significant relationships between residents' attitudes on specific issues and their

social and demographic characteristics. The attitudinal differences reveal that the community's capacity to face change is constrained because some groups within the community are grappling with such issues as limited employment opportunities or a sense of exclusion, that limit their ability to contribute to the overall capacity of the community. By uncovering these differences within the community, the study points out the relevance of going beyond an homogenous vision of forest-based community when assessing community capacity, and reveals hurdles that have a detrimental effect on specific groups within the community.

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## **2. FOREST COMMUNITIES: NEW FRAMEWORKS FOR ASSESSING SUSTAINABILITY**

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## **2. FOREST COMMUNITIES: NEW FRAMEWORKS FOR ASSESSING SUSTAINABILITY**

### **2.1 ABSTRACT**

In both Canada and the United States, there has been a growing interest in the sustainability of forests and forest communities. Policy makers and scientists have attempted to understand how forest management practices can enhance or harm the future of such communities. Although many studies have historically used economic indicators as measures of community stability, more recently researchers have demonstrated that the relationship between communities and forests goes far beyond simple economic dependency. Thus, recent frameworks for assessing forest communities have also addressed the need for broader social and institutional components. In this article, we briefly review three of these recent concepts—community capacity, community well-being and community resilience—and examine what each of these terms has to contribute to the assessment of forest communities.

### **RÉSUMÉ**

Au Canada, comme aux États-Unis il y a un intérêt grandissant pour assurer la durabilité des forêts et des communautés forestières. Les scientifiques et les gestionnaires forestiers tentent de comprendre les répercussions de la gestion et de l'aménagement des forêts sur l'avenir de ces communautés. Traditionnellement, les recherches sur les communautés forestières adoptaient une perspective économique. Toutefois, plusieurs études ont démontré que la relation entre une communauté et la forêt va bien au-delà de la dépendance économique. Aussi, des cadres théoriques qui incluent les dimensions sociales et institutionnelles des communautés sont apparus récemment dans la littérature forestière. Cet article présente brièvement trois de ces concepts: la capacité des communautés, le bien-

être des communautés, et la résilience des communautés. Nous examinerons la contribution potentielle de ces concepts à l'étude des communautés forestières.

## 2.2 INTRODUCTION

The Canadian National Forest Strategy aims at defining and achieving sustainable forest management. A primary objective of this policy is to ensure that current and future Canadian citizens will continue to benefit from a healthy forest ecosystem (*i.e.*, maintain the ecosystems' integrity, productivity, resilience, and biodiversity)(Canadian Council of Forest Ministers 1998). Such a long-term commitment toward sustaining forest ecosystems represents a fundamental shift from traditional forest policies in Canada, which tended to emphasize sustaining commercial timber output. A similar change in focus has taken place in the United States where an ecosystem-based approach has been adopted for managing public forests. The goal of this approach is to maintain the long-term health and integrity of ecosystems by balancing social, economic, and ecological considerations (Cortner and Moote 1999).

These shifts in policy reflect a growing awareness in both countries about the social and ecological complexity of forest ecosystems, as well as a fundamental shift in environmental values (Robinson *et al.* 1997, Shindler *et al.* 1993). These changes expand the traditional focus of forest management by requiring that forest practices foster the sustainability of both economic and non-economic forest resources. From a community perspective, it is a call to broaden our understanding of the relationships between forest-dependent communities and their local natural resources. Current policies express specific concerns about the viability of community social systems and their relationship with the long-term stability of the natural ecosystems. However, our ability to monitor and evaluate these community systems lacks a framework for assessing change across factors. In response, studies of forest communities have recently begun to develop a more comprehensive understanding of the interrelationships between forests, residents of forest communities, and local forest policy (Beckley 1996, Freudenburg *et al.* 1998).

This paper presents a review of the research undertaken to help guide efforts in developing methods to assess the long-term sustainability of forest-based communities. The paper briefly examines the historical concerns of forest policy toward forest communities, and then presents several frameworks used in assessments of forest-based communities. First, we review community stability, which has historically played an important role in forest policies and has provided grounds for discussions on how to assess the relationship between communities and forests. Next, we examine the emergence of three new assessment frameworks—community capacity, well-being, and resiliency—and discuss their utility in refining our understanding of forest communities.

### 2.3 SUSTAINED YIELD AND COMMUNITY STABILITY: A CLASSIC DUO IN FOREST POLICY

At the end of the 19<sup>th</sup> century, many questions arose about forest management in the United States and Canada. In both countries, a conservation movement was emerging, characterized by concerns that forests could not provide an infinite source of wood supply if the current forest practices continued (Swift 1983). This movement had common roots in the United States and Canada that were brought together by the American Forestry Congress meetings held in Cincinnati and Montreal in 1882 (Gillis and Roach 1986). It was during this period of questioning that the concept of sustained yield emerged as a policy goal to address fears of overharvesting.

During the 1920s in Canada, the concepts of sustained yield and community stability became intertwined. Elwood Wilson, forester for the Laurentian Paper Company in Québec, and the first forest engineer employed in the Canadian forest industry, argued that forest industries needed to recognize that many communities that had established around wood-processing mills were highly dependent upon a sustained production of timber (MacKay 1986). Accordingly, he believed that forest companies had a moral obligation to guarantee their activities. Wilson and other foresters promoted the development of forest practices that would prevent the depletion of forest resources and the decline of Canadian forest communities. After World War II, as the demand for forest products in North

America skyrocketed, fears of an eventual wood famine increased and added to the concerns about an eventual destabilization of forest communities. As a result, forest policies in all Canadian provinces were dominated by the need to provide incentives for the industry to practice sustained-yield forestry, under the assumption that a prosperous forest industry would result in prosperous forest communities (Ross 1995).

In the United States, David T. Mason was a strong supporter of the stabilization of forest communities through sustained-yield forest management (Mason and Bruce 1931). His views inspired the Sustained Yield Forest Management Act of 1944, where specific reference to community stability can be found (Schallau and Alston 1987). Under the Act, community stability became an official goal of the U.S. Forest Service, with sustained yield viewed as a means to ensure the happiness and well-being of local residents (Schallau 1989). These efforts were directed at economic and political stability through the maintenance of a non-declining flow of timber from the national forests (Lee 1990).

In short, the general conception of community stability held by Canadian and American foresters focused on the notion that a regulated forest would provide a steady flow of wood in a sustained and predictable fashion. Foresters believed that this steady timber production would ensure employment, which in turn would lead to stable communities (Kusel and Fortmann 1991, Schallau 1989). One result of these assumptions is that many research efforts were directed at evaluating the sustained-yield policy and its effect on community stability.

## 2.4 COMMUNITY STABILITY: A FUZZY CONCEPT

Although the term “community stability” has been commonly used both in forest policies and studies of forest-based communities, it raises considerable debate in the research literature. The discussion arises from both the various meanings given to the concept of “stability” and the diversity of indicators used to measure that concept. Nevertheless, it is an important concept because it represents a first attempt to explicitly recognize a relationship between forests and communities.



In one of the earliest occurrences of the term, Kaufman and Kaufman (1946) used the term “community stability” in their work on Montana’s rural communities to refer to a process of orderly change encompassing numerous aspects of the community. The authors stressed the importance of greater economic diversification, community leadership, public participation, and sustained yield of forest resources as contributors to community stability.

In forestry, the concept of stability became associated with a notion of constancy and was usually measured with economic indicators (Waggener 1977). A literature review by Machlis and Force (1988) indicates that measures of community stability have focused on the impact of forest industries and adequate stability in the level of harvesting, employment, salary in forest industries, production of forest products, and prices of forest products. This strong emphasis on monitoring economic measures of community stability arose out of the belief that a sustained yield of timber production was an effective means of ensuring the stability of forest communities.

Over the years, many studies have pointed out the limitations of the sustained-yield/community stability assumption. Daniels *et al.* (1991) demonstrated that providing a constant flow of timber was not a satisfying solution to the instability faced by forest-based communities. Diverse factors, such as a cyclic demand for forest products and changes in technology and transportation, have been identified as reasons for the inability of a sustained-yield policy to secure the stability of communities (Kromm 1972, Waggener 1977). Other studies have focused on the effect of forest dependency on social aspects of community, showing that many forest-based communities go through typical social changes such as rapid fluctuations in population, employment, and well-being as the industry they depend upon follows a boom-and-bust cycle (Bowles 1992, Freudenburg 1992). Thus the impact of forestry on community has been shown to encompass more than just the economic stability that foresters and policy makers had first considered.

Many studies done in the early 1990s adopted an approach inspired by the early work of Kaufman, and acknowledge the complex dynamics of community stability (*e.g.*, Drielsma 1984, Humphrey 1990, Machlis *et al.* 1990). In particular, they aimed at developing a more complete understanding of the effect of forest dependency on communities. These studies

refer to community stability as a process of orderly change observable both in the economic and social realms. Thus, contrary to the studies of the 1970s that used an economic approach to assess community stability, these studies relied on a sociological perspective. The adoption of this sociological perspective resulted in the use of a more diverse set of indicators to assess community stability and provided new insights about the dynamics of community stability in forest communities.

In one of these studies, Force *et al.* (1993) attempted to establish a connection between community social change (community size and structure, cultural elements, cohesion, and social anomie) and changes in local resource production, local historical events, and societal trends. They used diverse indicators to monitor those variables and found that timber dependency may only be a minor factor influencing social change in the community. They suggest that foresters need to take a closer look at the human ecosystem dependent on the forest to get a better understanding of the factors that affect the stability of these ecosystems.

Drielsma (1984) used another set of indicators to assess community stability in forestry-, agriculture-, and tourism-dependent communities. He studied population stability, wholesomeness of family life, economic stability, prosperity, standard of living, community life, and health, as well as the external influences and controls of different types of communities. His findings reveal that forest-dependent communities are among the least stable and prosperous communities, because they tend to have a high population turnover and more social problems (*e.g.*, divorce, suicide, low cohesion) than other communities. Furthermore, forest communities without major industrial facilities tend to have poor housing and public services, poor wages and earnings, and high seasonal unemployment. These results, and similar ones from other studies (Marchak 1990, Overdevest and Green 1995), suggest that stability of timber production does not necessarily result in prosperous communities. Drielsma (1984) also notes that a sustained-yield policy offers few chances of leading to a stable community, in part because current economics encourage further processing of timber outside of these forest communities. Thus, in order to help forest communities support themselves on a long-term basis, alternative policy options must move beyond the economic aspects of a community.

The emergence of research on non-economic aspects of community stability is reflected in the positions taken by the U.S. Forest Service and the Society of American Foresters in the 1980s. Both organizations proposed revised definitions for community stability that focus on the capacity of forest communities to cope with change (USDA 1982 as cited in Power 1996, National Task Force on Community Stability 1989). The task force appointed by the Society of American Foresters to look at community stability acknowledged that:

Community stability, as it relates to forestry is closely associated with jobs and economic benefits generated from the use of forest resources. However, the task force also recognizes that this topic cannot adequately be considered apart from several other related aspects, including: quality of life, environmental considerations, and the nontimber and noncommodity uses of forestland. Community stability concerns the prosperity, adaptability, and cohesiveness of people living in a common or functional geographic area and their ability to absorb and cope with change. (National Task Force on Community Stability 1989)

Unfortunately, because this concept of community stability has been used to assess forest communities in such different fashions over time, there is little agreement on what community stability is about or how it should be assessed.

## 2.5 THE EMERGENCE OF NEW CONCEPTS TO ASSESS FOREST-BASED COMMUNITIES

Despite efforts to clarify and broaden the meaning of “community stability,” the term remains ambiguous and frequently leads to confusion. In response, researchers have proposed new concepts for studying forest communities that attempt to look beyond their economic dimension. In addition, researchers stress the need for a clear definition of “community”. Indeed, the diverse ways in which “community” has been defined in studies of forest communities has contributed to the confusion and to the call for clarification.

### 2.5.1 What do we mean by community?

In past studies, particularly during the 1950s and early 1980s, “community” was often defined as a human settlement in a given geographic area (Byron 1978, Schallau 1974). Under this definition, community assessments focused primarily on the economic dependency of the geographic community upon the surrounding resources and tended to view community narrowly as simply a source of labor for the local forest industry. This offered a rather reductionist vision of “community.” Some earlier studies (Dana 1918, Foster 1941) used a more inclusive definition of community that integrated both social and economic components. They defined community as a human system with specific needs that should be included as a part of forest management. This emphasis on broader human needs in forest communities re-emerged in the late 1980s (see Carroll 1989).

This difficulty in clearly defining “community” is not new. After reviewing the various meanings of “community” in sociological studies, Hillery (1955) suggested three general approaches to clarify the concept of community. His typology, which is still widely used, refers to community as the following:

1. Geographical location: a human settlement with a fixed and bounded territory;
2. Social system: the interrelationships between and among people living in the same area;
3. Sense of identity: the focus on a group of people who share a particular set of values even if they do not live in physical proximity.

(Hillery 1955)

The first approach emphasizes a geographical analysis and suggests that there is a relationship between social life and a specific, identifiable location. A strength of this territorial approach is that it allows the use of data that are collected on a geographical basis (e.g., national census). However, from a social science perspective, this approach is limited in that it considers neither the nature nor the patterns of the relationships between people. The second approach provides a more in-depth examination of the interactions between people, linked by geography. This approach examines the network of relationships

among people but may pay little attention to the quality of those relationships. Finally, the third approach recognizes that people may hold shared values, but places no constraints on geographical proximity. Thus, this approach is concerned with the quality of relationships between members of a non-territorially bound form of community.

Hillery's typology reveals various dimensions that can be associated with the term community. Each type of community allows researchers to address different questions of interest about specific real-world issues. Regardless of the type of community studied, the concept offers an opportunity to understand the linkages between humans and the natural environment at different levels. The geographical approach offers a general overview of the relationship between human settlements and surrounding forests. This overview can be drawn from available statistics about the community (*e.g.*, the economy, demography) and forest (*e.g.*, timber production, recreational uses). The social system approach focuses on understanding the influences of forests over the whole social system by observing patterns in the development of the community, livelihoods, the local economy, community institutions, and forest uses. Finally, the third approach calls for a more detailed description of how forests influence the lives of a particular group of people. It attempts to understand the role that forests play in peoples' lives, how forests affect social and family life, and the values that people attach to forests.

The type of community studied is an important factor influencing how forest community assessments will be designed and conducted. Beckley (1998) proposed that three dimensions should be addressed in defining forest communities. He suggested that we specify the scale of the unit of analysis (individual, household, community, county, state, region), the type of dependence (timber, forest service, tourism/recreation, non-timber products, subsistence, or ecological), and finally the degree of dependence (high, moderate, or low dependence). These three dimensions remind us that community can refer to a variety of diverse human settings. Therefore, special attention needs to be paid to describing the major features of what we call a "forest community." In parallel with this reflection about defining forest communities, researchers developed assessment frameworks to overcome limitations associated with the concept of community stability.

### 2.5.2 New concepts in the study of forest communities

In this paper, we present three frameworks for community assessment that have recently been introduced in forestry literature.

- Community capacity: concerned with the characterization of a community's ability to face changes (FEMAT 1993).
- Community well-being: focused on understanding the contribution of the economic, social, cultural, and political components of a community in maintaining itself and fulfilling the various needs of local residents (Kusel and Fortmann 1991).
- Community resilience: concerned with the capacity of humans and their institutions to adapt to changes over time while minimizing their effects on communities (Quigley *et al.* 1996).

These concepts were first used in sociological, ethnographic, and human ecology studies. They were adopted for forest community assessments because they offered an opportunity to analyze the effects of forest dependency on various dimensions of communities. These concepts were brought to the attention of many foresters by the advent of large-scale ecosystem studies in the United States. These assessments are an important means of informing the decision-making process about the social, economic, and ecological conditions of a region where an ecosystem management policy is being designed (Herring 1999).

To date, at least three of these bioregional assessments have included a scientific analysis of forest-based communities. The first to do so was a group of scientists, known as the "Forest Ecosystem Management Team" (FEMAT), appointed by President Clinton to identify alternatives to break the policy gridlock over the Pacific Northwest forests (FEMAT 1993). After this project, the Sierra Nevada Ecosystem Project (SNEP) and the Interior and Upper Columbia Basins Ecosystem Management Project (ICBEMP) were both launched to assess the natural resources and socioeconomic conditions of their respective regions (Quigley *et al.* 1996, SNEP 1996).

These three bioregional assessments examine the social, economic and political nature of forest communities and have provided forestry professionals with a more complete understanding of community than “community stability” did in the past. Although previous assessments of community stability tended to provide information about the economic status of the community, these bioregional assessments supplemented the economic profile with a social profile. Their economic assessments still provide information about the status of the regional economy by studying indicators pertaining to the employment situation, timber production, economic growth, and diversification. In addition, though, the social assessment provides information about the status of the communities by assessing their social values and activities both with existing indicators and with new information collected from these communities. Because each bioregional assessment has a different mandate to fill, there still is little agreement on a model for assessing forest communities. Nevertheless, three concepts—community capacity, community well-being, and community resilience—have been used to describe the human/ecosystem dynamics within these systems. The following sections present these concepts in more detail and provide examples of their uses in assessments of forest communities.

#### 2.5.2.1 Community capacity

The concept of community capacity emerged from a synthesis of research in human ecology, rural studies, and sociology (FEMAT 1993). In forestry, it has been used to estimate the ability of forest communities to face changes in forest policies, management, or practices. Community capacity refers to the ability of a community to adapt to an evolving set of economic, social, and political conditions. It focuses on particular community attributes that play an important role in how local residents react and respond to problems or external threats (Kusel 1996). The major challenge of community capacity assessment, therefore, is to identify certain attributes of a community that facilitate or impede its ability to respond to changes. Various attributes have been assessed in studies of community capacity; these have been grouped into four elements.

- *Physical and financial infrastructures*: physical attributes and resources in a community (e.g., sewer system, open space, business park, housing stocks, schools, etc.) along with financial capital (FEMAT 1993, Flora and Flora 1993, Kusel 1996).
- *Human capital*: skills, experience, education, and general abilities of residents in a community (FEMAT 1993, Flora and Flora 1993, Kusel 1996).
- *Civic responsiveness (or social capital)*: the ability and willingness of residents to work together for community goals (FEMAT 1993, Flora and Flora 1993, Kusel 1996).
- *Environmental capital*: air quality, as well as the quality and quantity of water, soils, minerals, scenery, and general biodiversity of the area (Flora and Flora 1993).

The underlying assumption of community capacity is that the interactions between these elements determine the ability of a community to face changes. Thus, positive and negative consequences of changes are more likely to achieve a balance in communities with higher capacity, but communities with low capacity are more likely to be negatively affected. The level of capacity is influenced by the presence of an element and also by its quality. However, because complex interrelations exist among these elements, a change in one can affect the others in positive or negative ways. For example, enhancing human capital by encouraging in-migration of highly educated people might lead to a reduction in civic responsiveness if these new residents tend to act independently and do not get involved in community affairs. Thus, we have to remember that it is not only the presence of an element that is important, but also its effects on other elements and on the overall capacity.

Community capacity was a major focus of the FEMAT social assessment. The assessment of 300 communities was conducted through workshops where panelists—familiar with local communities—had to rate the communities on a capacity scale. Overall, the social assessment team found that many factors, such as community size, location, level of economic diversification, and leadership, affected the capacity of communities to deal with changes in forest management. They also pointed out that many timber-dependent communities were rated with a low capacity because of their sensitivity to changes in harvesting levels and a low level of leadership (FEMAT 1993).



FEMAT provided interesting insights about key factors influencing the ability of forest-based communities in the Pacific Northwest to adapt to changes in forest management. However, it gave few indications as to how these changes might affect the welfare of a community's residents or a community's quality of life. These concerns have become embedded in another concept: community well-being.

#### 2.5.2.2 Community well-being

Community well-being is an assessment framework that has been used in recent studies on forest communities (Bliss *et al.* 1998, Doak and Kusel 1996). Even so, the concept of "community well-being" is a difficult one to grasp. Although the term appears in many scientific papers, it is rarely defined. According to Wilkinson (1991), well-being is a concept meant to "recognize the social, cultural, and psychological needs of people, their families, institutions, and communities." This definition reveals the complexity of the concept—a complexity that calls for the consideration of many different aspects of a community, such as quality of life and economic and social structures. Because of this complexity, studies on community well-being have adopted different approaches. Some studies of forest communities have analyzed specific factors influencing well-being such as poverty or economic development (*e.g.*, Kirshner Cook 1995, Overdevest and Green 1995) and have relied mainly on social indicators. Other studies have focused on general well-being and have tried to identify the main factors affecting well-being in forest communities (*e.g.*, Bliss *et al.* 1998, Kusel and Fortmann 1991). These studies rely on a mix of social indicators, historical information, and data collected directly in the communities regarding how residents themselves evaluate different aspects of their lives.

For instance, in their studies of Alabama's forest communities, Bliss *et al.* (1998) compared the social, economic, and environmental well-being of two forest counties. Their assessment was based on a comprehensive analysis of social structures, ownership patterns, forest sectors, and historical development patterns in the communities. They observed that a high concentration of resource ownership and product specialization posed problems for social well-being. This finding was in part due to the fact that owners had few, if any,

incentives to participate in the improvement of social well-being in the community in which their forests or mills were located (Bliss *et al.* 1998). Although these economic actors can make important contributions to the economic well-being of a community, their overall contribution to community well-being can be reduced by their negative impacts on social and environmental well-being. Other studies (Kusel and Fortmann 1991, Marchak 1990, Overdevest and Green 1995) have also noted that concentrated ownership and control of natural resources can negatively affect the well-being of forest communities.

Community capacity has also been identified as an important factor influencing community well-being (Beckley and Sprenger 1995, Kusel and Fortmann 1991). For instance, in the Sierra Nevada Ecosystem project, Doak and Kusel (1996) assessed community well-being through an analysis of socioeconomic status and community capacity. Their strategy was to complement sociodemographic measures with self-reported measures collected in the communities. They used indicators of housing tenure, poverty, education level, and employment to construct a scale with which to measure socioeconomic status of communities. A series of workshops with key public officials was then used to assess community capacity. Their results indicate that communities with high socioeconomic status do not necessarily have a high community capacity. The authors attribute this weak correlation to the critical role of “social capital” (*i.e.*, a community’s ability to work toward common goals) (Doak and Kusel 1996). Although socioeconomic status provides information about the wealth of people in the community, community capacity informs us about the willingness of these people to share this wealth. Thus, these two concepts contribute in different ways to overall well-being of forest communities.

### 2.5.2.3 Community resilience

It is unclear under what circumstances the concept of community resilience was introduced to the community assessment literature. In 1990, Machlis and Force suggested resilience as an alternative to the concept of stability because it stressed the ability of a community to cope with change. More recently, community resilience has been defined as the capacity of humans to change their behavior, redefine economic relationships, and alter social institutions so that economic viability is maintained and social stresses are minimized

(Quigley *et al.* 1996). In many regards, community resilience is similar to the concept of community capacity in that it also addresses the ability of communities to adapt to change. However, the concept of resilience expresses a clear concern about the development and maintenance of this ability over a long period of time. In this sense, it contributes a new element to the assessment of forest communities.

Unfortunately, one concern with the use of this term is that the social definition of resilience may be confused with the ecological meaning of resilience. The ecological meaning of resilience refers to the ability of a system to recover following a perturbation and the speed with which it returns to its original condition (Smith 1980). As a result, people may erroneously believe that community resilience is a concept for assessing how human communities return to pre-existing conditions after having responded to change. On the contrary, the social definition emphasizes the evolution of a community and does not suggest that the social system should revert to a previous stage. Because of the likelihood of confusion between these definitions, it is important that community resilience be clearly defined in future research studies.

In the mid-1990s, the social science team of the Interior and Upper Columbia Basins Ecosystem Management Project (ICBEMP) operationalized the concept of community resilience. In this study, workshops in 198 communities led to self-assessments of each town's ability to manage change and adapt in a constructive way. A resilience index was developed to monitor communities by aggregating measures of residents' perceptions of certain community characteristics and conditions:

- aesthetic attractiveness
- proximity of outdoor amenities
- level of civic involvement
- effectiveness of community leaders
- economic diversity
- social cohesion among residents (Harris *et al.* 1998).

Because researchers were also interested in local people's perceptions about their future, they assessed how communities were perceiving and preparing for it. Their results indicate "the most resilient communities are those whose residents have a clear vision of desired future conditions and have taken into account biophysical, social, and economic changes" (Harris *et al.* 1998). The researchers suggest that communities that have a proactive attitude are more ready to move forward when dealing with change. However, the ICBEMP assessment did not support FEMAT's conclusion that forest communities dependent upon timber are the least adaptable communities (Harris *et al.* 1998). Unfortunately, they provide few clues about the source of that difference. Therefore, it remains unclear whether the difference rests on the various aspects studied under the different assessment frameworks or whether it is embedded in the community characteristics themselves. Further studies of community resilience would help clarify the important elements that confer upon a community the ability to maintain itself over time. They would also contribute to a better understanding of the subtle differences that have been observed between community resilience and community capacity.

## 2.6 CONCLUSION

In this paper, we retraced historical perspectives and provided a brief summary of emerging research ideas for assessing forest-based communities. Community stability, which was closely associated with foresters' commitment to sustained yield, assumed that a constant flow of timber would provide security for the communities dependent upon forest industries. Research revealed that the dependency relationship between communities and forests involves more than just an economic dimension. Thus, revised definitions of community stability have emerged. Varying definitions as to what constitutes a community have also created confusion. We reviewed a variety of meanings attached to the concept of "community," observing that studies of communities have different interpretations of what constitutes a community. We acknowledge there may never be a single definition for this concept.

Because community stability has evolved with an economic connotation, new, more inclusive terms such as community capacity, well-being, and community resilience have begun to replace it. These concepts encompass the previous elements expressed by the idea of stability but provide a means to incorporate today's concern over non-market values by increasing the attention paid to the social, cultural, and institutional components of forest communities.

These three concepts have several common features, the most obvious being that community capacity is an important element of community well-being. Another important common feature is that each of these concepts brings researchers into communities, because they cannot be evaluated based on secondary data alone. Thus, community members play a larger role in community assessment than they did under the community stability assessment framework. In the studies we reviewed, these community roles have varied from personal interviews to broader community self-assessment activities.

In addition, each of these emerging concepts derives from a particular set of interests and, thus, is often used to answer different questions about communities. Community well-being is the most far-reaching concept as it assigns importance to the roles of historical background, quality of life, and concerns about the capacity to adapt to changes. Therefore, the notion of well-being is likely to lead to a more comprehensive description of a community than an analysis based solely on community capacity. Finally, although community resilience also shares some elements embodied in the other two concepts, it also speaks directly to the future of the community, providing insights about the trust that residents place in their community and their future.

These new ways of assessing forest-dependent communities can help develop a more comprehensive understanding of the interrelationships between humans and the forest settings in which they live and work. Further refinement of these emerging frameworks will also lead to agreement on more specific criteria and indicators for monitoring the sustainability of Canadian forest communities.

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**3. UNDERSTANDING THE DEVELOPMENT OF COMMUNITY CAPACITY  
OVER TIME: A CASE STUDY OF A FOREST-DEPENDENT COMMUNITY**

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### **3. UNDERSTANDING THE DEVELOPMENT OF COMMUNITY CAPACITY OVER TIME: A CASE STUDY OF A FOREST-DEPENDENT COMMUNITY**

#### **3.1 INTRODUCTION**

Over the last decade, forest-based communities have faced tremendous changes induced by economic, social, and political forces. For example, technological improvements, market differentiation, and economic globalization have affected many forest-based communities, resulting in employee layoffs or even mill closures, and threatening traditional ways of life (Barnes *et al.* 1999, Freudenburg *et al.* 1998). Increasing concerns about ecological conditions and forest products have driven forest policies in new directions. In Canada and the United States, forest policies have begun to address explicit concerns about the sustainability of both biophysical systems and human uses of forests.

These changes have resulted in a growing interest on the part of academics, politicians, and rural communities in the sustainability of forest-based communities, especially in identifying key factors that could explain why some forest communities are more able to cope with change than others (Doak and Kusel 1996, Harris *et al.* 1998). This ability of communities to deal with change is often called “community capacity” and refers to the “collective ability of residents in a community to respond to external and internal stresses; to create and take advantage of opportunities; and to meet the needs of residents diversely defined” (Kusel 1996, p. 369). Studies on community capacity have primarily assessed current conditions within forest communities, contrasting the differences between communities from a same region (FEMAT 1993, Harris *et al.* 1998, SNEP 1996). Although many forest communities have a long history of forest dependence, little attention has been paid to the long-term effects that forest dependency has on community capacity.

The purpose of this paper is to provide an assessment of community capacity over time by looking at its evolution in a forest-based community. The Haut-St.-Maurice, a long-time forest-dependent community, served as a case study to examine the effect this dependency

has on the development of community capacity, and on the evolution of key related components. Adopting an historical perspective provides a better sense of how entrenched are the assets and liabilities that characterize the community's actual capacity. For example, looking back over the history of a mill town, it is possible to assess whether infrastructures, such as the water system, or recreational facilities, are a legacy of the mill owners or a result of residents' initiatives. The stories behind the infrastructure can reveal interesting information about the traditional source of leadership in the community, or the ease with which residents can put together a common project. To document these stories, historical documents are useful, as is the knowledge of local residents, expressing their perspectives on community capacity. This contribution from the community has been pointed out by various authors as an important part of the community capacity assessment, because it provides information about local values that are not captured by traditional forms of investigations which rely on indicators or experts' opinions (FEMAT, Doak and Kusel 1996, Harris *et al.* 1998)

The case study presented here is an assessment of community capacity based primarily on the perceptions of local people. The central objective was to characterize the development of community capacity in the Haut-St.-Maurice based on residents' own experiences. Another objective was to assess the depth of the relationship that residents see between the local forests and their community, and the impact it has on the community's ability to face change. Locals shared their opinions and visions through interviews, where they identified stronger and weaker features that have nurtured community capacity at different points in time. Historical documents were then used to ground residents' stories in a broader context and provide missing information. Before looking in more detail at the methods used in this study and its findings, the next paragraphs briefly review some of the theoretical aspects related to community capacity and other key concepts associated with it.

### 3.2 COMMUNITY CAPACITY: DEFINITION AND CONCEPTS

As noted by Chaskin (2001), although community capacity has captured the attention of many scholars, few attempts have been made to define the concept. Still, researchers

generally agree that social capital, human capital, and infrastructure are important determinants of community capacity. Some studies (Flora and Flora 1993, Hobart 1997) also suggest that natural resources are a key element contributing to community capacity. Results from research conducted by Doak and Kusel (1996) support this suggestion, as they showed that residents of forest-based communities consider natural resources to be an important aspect of community capacity. Thus, this study included natural resources as one of the elements that shapes community capacity along with infrastructure, and social and human capital. The following sections briefly introduce each of these elements in light of their contribution to community capacity.

### 3.2.1 Social capital

Social capital appears to be a major determinant of community capacity (Flora and Flora 1993, Hobart 1997, Kusel 1996). The definitions of what constitutes social capital and how it should be assessed are varied (Wall *et al.* 1998). The common link between the various definitions is the idea that social capital is made up of interrelations that develop among actors. The key element here is not the actors themselves, but the structure and quality of the relationships being developed among these actors. These concerns are all reflected in the definition provided by Putnam (1992), who stated that social capital is the "features of social organization, such as trust, norms and networks, that can improve the efficiency of society by facilitating coordinated actions" (p. 167). Like Putnam, many authors regard social capital as fundamental to sustaining, or even enhancing democratic attitudes and practices (Cortner and Moote 1999, Flora 1998, Mullen and Allison 1999). As such, social capital is assumed to play a key role in community empowerment regarding the use of local resources to meet a community's needs.

### 3.2.2 Human capital

Another component of community capacity is human capital. Although this concept was first used to refer strictly to individual characteristics such as education, job experience,

acquired skills, health, and mobility, its definition has been broadened to include concerns about the settings in which the human capital is being developed (Johnson and Stallmann 1994, Mulkey and Beaulieu 1995). Consequently, the assessment of human capital in a community, even if centered on individual characteristics, should provide information about the setting in which the human capital is being developed. Coleman (1988) suggested that human capital is built through formal education and informal learning that takes place within the family, community, or work place. Thus, to provide an accurate description of human capital, one should pay attention to how it is displayed in these various environments.

### 3.2.3 Infrastructure

The term infrastructure has been used to refer to the utilities that support the economic and social activities of a community (*e.g.*, mills, water and sewer systems, roads, recreation facilities) and has been identified as a key element for community development (Flora *et al.* 1992). Recently, authors have noted that, as more communities generally have good basic infrastructure, their differentiation is most likely to come from investments in more advanced infrastructure, such as healthcare facilities, school systems, or recreational facilities, that contribute to the general well-being in a community (Porter and Monitor Company 1991, Power 1996). Thus, according to these authors, the development of such infrastructure by a community contributes not only to its economic well-being, but to the overall quality of life in the community, which is an important factor for success in the modern economy.

### 3.2.4 Natural resources

Natural resources are the only non-manmade contributor to community capacity. Natural resources include economic and non-economic goods and services that are delivered by nature. Traditionally, the contribution of natural resources to community capacity was strongly associated with the resources' economic role in community development.



However, changes in people's needs in terms of recreation, or quality of life, and environmental values have raised new issues and revealed a more complex role of natural resources in the community. According to Power (1996), amenities such as scenic beauty, clean air, and water, are becoming important factors in people's decisions whether or not to settle in a specific location, and he argues that this commitment to a specific setting is an important factor contributing to community vitality.

Despite the important role of natural resources in sustaining communities, and despite numerous studies on natural resources-dependent communities, researchers noted reluctance by sociologists to deal explicitly with natural resources (Freudenburg *et al.* 1998). Efforts have been invested in studying the social dynamics created within natural resource-based communities but little attention has been devoted to investigating the relations between the community and the surrounding natural resources. Discussing the integration of these two dimensions, Flora (1998) noted that even if social capital is actually viewed as a key element in resolving local conflicts over natural resources, no theoretical perspective combines these two concepts. This difficulty in integrating social and biological elements might explain in part why natural resources are not often considered as contributors to community capacity, even though their availability, their quality, and their quantity are likely to affect this capacity. For example, availability of drinking water in a community experiencing an important population increase might force it to limit its growth or force it to invest in infrastructures that would overcome this limitation.

### 3.2.5 The dynamic nature of community capacity

Research to date has focused either on comparing the capacity of many communities at a point in time (FEMAT 1993, SNEP 1996), or on studying the contribution of a specific element, such as social capital (Flora *et al.* 1996, Hobart 1997). Little has been done to directly address the issue of how community capacity changes over time, or to discuss the interactions that can develop between its different components. The way these interactions are shaped by changes that emerge from either inside or outside the community is also left

aside. Still, it seems reasonable to think that community capacity evolves over time, and that important changes such as new mills, natural disasters, retirement of community leaders, or new policies are likely to remodel community capacity by altering some of its components. Such events might even produce a chain reaction and induce major changes in several components, thus profoundly reshaping overall capacity. Therefore, it appears that, although social capital, human capital, infrastructure, and natural resources are necessary to build community capacity, they are not sufficient in themselves to generate it. The collective effect of these components creates a dynamic that might maintain, reinforce, or weaken the overall capacity. Thus, when assessing community capacity, some attention should be devoted to characterizing not only the different elements that contribute to it, but also the dynamic between those elements.

The work of Freudenburg and Gramling (Freudenburg 1992, Freudenburg and Gramling 1998) provides examples of such dynamics by noting that different factors, such as attractive working conditions in a sector, or a community's investment to support a single industry, can generate an overadaptation in a community to a specific industry. This may limit the development of attributes that could enhance community capacity. Their work suggests that patterns of development of human and social capital occurring in resource-based communities might be as important a threat to these communities as the depletion of the natural resources on which their economy is based. Their argument is a pledge to look beyond sustainability of the natural resource base and assess the effects of resource dependency on the social system.

### 3.3 CASE STUDY SETTING

Case studies are commonly used in the study of rural communities when researchers are interested in portraying the dynamics, processes, or components of social settings (Gauthier 1995). This approach has the advantage of allowing the researcher to delve into topics that are difficult to quantify and also to focus on processes that occur over time (Babbie 1995). The case study approach seemed to be an appropriate method to conduct

this study and examine local residents' perceptions regarding community capacity and how it has been influenced by the community's dependence upon the forest.

Several criteria were used to select the study site, the Haut-St.-Maurice. First, to address the study questions, the site had to be a community with a long history of forest dependency. Second, because many studies have already focused on forest dependency in communities with industrial wood-processing facilities, a mill town was selected so that comparisons can be made with other studies. Third, isolation was a criterion. To minimize the potential effects of neighboring communities, the study site had to be isolated enough that most of the residents' activities take place within the community.

The Haut-St.-Maurice is a forested region located some 300 km northeast of Montreal, Quebec, Canada (figure 1). This region has a rich history in terms of forest use, as the early European settlement relied on the fur trade, and the first rights to harvest timber on public lands were allocated in 1831 (Beaupré and Dusseault 1986). Nevertheless, low agricultural potential, coupled with regulations prohibiting timber harvesting on public lands by individuals deterred settlement in the region until the 20<sup>th</sup> century. At this time, increasing demand for paper products prompted a first wave of intensive investment to develop the pulp and paper industry in Eastern Canada (Charland 1990). The newly established mills secured their timber supply through long-term timber limits allocated by the provincial government. Under this tenure system, the limits holder was responsible for land stewardship, but the government retained its ownership rights (Lortie 1984). By 1933, most of the 23,220 km<sup>2</sup> of public forest in the Haut-St.-Maurice was allocated to a few forest companies (Senecal 1933). Still, most of the companies harvesting wood in the region were floating it out of the region, and only one company established its mill in the Haut-St.-Maurice: the Brown Corporation. The activities of this company launched the development of the region, which remains to this day economically dependent upon the forest sector (Canessa 2000).

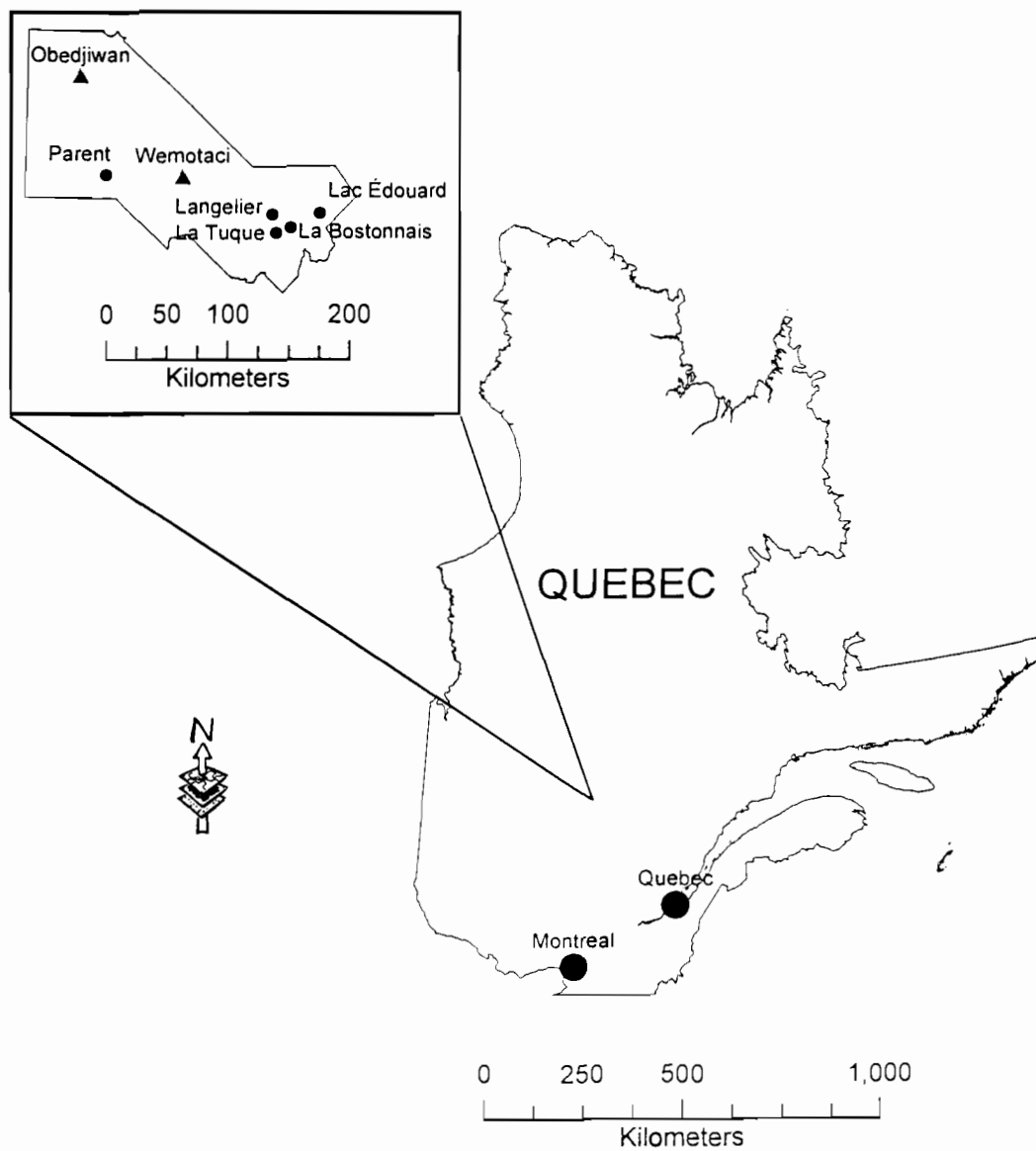


Figure 1: Location of Haut-St.-Maurice.

### 3.4 METHODS

This study relies on an inductive approach. Rather than testing a predetermined hypothesis about community capacity, data were gathered to document patterns in this specific community. Three main reasons supported the research approach. First, community capacity is a fairly recent concept and the interactions between its components, including natural resources, infrastructure, and human and social capital, have not been fully defined or assessed in previous studies. According to Shaffir and Stebbins (1991), an inductive approach using qualitative data collection methods is especially appropriate when studying a partially known phenomenon.

Second, existing empirical work on community capacity focuses on American forest-based communities. Adopting a traditional “hypothetical-deductive” approach could have precluded considerations of relevant issues in a Canadian setting. The two countries differ in their approach to community and individual rights and obligations. Canada favors collective policies, while the United States tends to favor individual rights (Lipset 1985). These differences are likely to affect the design of policy and institutional arrangements made to manage public lands. Furthermore, according to Beckley and Korber (1995), compared with the United States, Canada has a higher proportion of natural resource-dependent communities that are more likely to be dependent on a single resource and on a non-domestic market. Therefore, these communities probably face different stresses than their American counterparts, and the research framework should be flexible enough to let these differences emerge. Finally, designing a set of hypotheses at the beginning of the study would have limited our ability to adapt the research framework to important issues that were discovered during fieldwork.

A series of semi-structured interviews was conducted with key informants to identify community issues relevant to its capacity. As this study was part of a larger one, the information collected through the interviews also guided the design of a survey questionnaire for a subsequent phase of the study. Semi-structured interviews allow the researcher to introduce the research topic, but also encourage the interviewees to express themselves freely (Brandenburg *et al.* 1995). The interview protocol used in this study

introduced and defined concepts such as infrastructure, and social and human capital, and asked respondents for their opinions about the strengths and weaknesses of these elements in their community. A few questions also addressed the effect of forest and environmental policy on community capacity. Finally, interviewees were asked if there were other features of their community that contributed to its ability to adapt to changes.

Interview respondents were selected using the snowball sampling method, a non-probability sampling method where the sample is built through referrals made among interviewees (Biernacki and Waldorf 1981). Although not a random sample method, this method of selection led to different groups in the community varying in occupation, age, gender, race, and place of residency. Each interview took place in the setting suggested by the interviewee.

A total of thirty-two interviews were conducted and each interview was tape recorded, then transcribed into text. As suggested by Strauss and Corbin (1990), interview coding was performed shortly after the interview had taken place so that results from this interview could lead to new developments in the following interviews. In addition to interviews, field notes were taken to document the main points of informal discussions, and historical references were collected from different sources such as the local government, historical society, newspapers, and documents from archives, and from forest companies. These secondary data were used to refine our understanding of specific events introduced in the interviews and to detail the circumstances in which these events took place.

### 3.5 RESULTS

#### 3.5.1 Which community?

Instead of imposing a geographical definition of the community on the interviewees, they were allowed to define the limits of what they considered to be their community, and discuss its capacity to adapt to change. The intent was to identify a community that would

fit the definition proposed by Duinker *et al.* (1994) who suggested that a forest community is “a setting in which the people have some sense of place, common interests and goals, and are willing to cooperate or work together to achieve those goals” (p. 712).

The city of La Tuque, where the pulp mill is located, was the starting point for defining the community's boundaries. During fieldwork, it became clear that these boundaries would include more than La Tuque. People referred to a community that was broader than the city, they talked about a territory that encompassed the city, forested lands, and other inhabited lands. La Tuque was identified as the center of the community, which also included four smaller localities: Langelier, La Bostonnais, Lac Édouard, and Parent. Langelier and La Bostonnais are two municipalities adjacent to La Tuque, and their development has always been intertwined with that of La Tuque. Lac Édouard and Parent are more distant from La Tuque, but their ties with the city have grown stronger with road improvements.

Although two native reserves are located in forested areas of the Haut-St.-Maurice, these groups were not included in respondents' definition of their community. In spite of that, the increasing number of Atikamekw living in La Tuque, as well as the numerous native institutions recently established in the city, were cited by respondents as examples of diversity in their own community. The following excerpt illustrates how native and non-native peoples are seen as two different social entities that are just starting to know each other.

Yeah, we don't really mix, that might be part of the difficulties, native people and you have white people but nothing links us together.

The presence of native people has raised a certain confrontation of social values, cultural values, a reflection because as I said earlier their presence (in the community), is important only for the last 10 years, I think it confronted people.

Based on the clear separation that respondents made between their community and the Atikamekw community, the study treated them as two different communities. Even if these communities share the same territory and some governmental infrastructure, they have distinct local institutions and culture. Data collected also showed that these communities

have a very different relationship with the forest, one being centered on industrial wood-processing activities and the other centered on subsistence uses. So this study focused on the Haut-St.-Maurice community as respondents described it: an industrial forest-based community encompassing five municipalities with a population of mostly non-native people, with specific institutions, norms, and values.

### 3.5.2 Community capacity

There is a general agreement among interviewees regarding the important and lasting dependency of their community on the forest. The following comments convey a sense of their assessment regarding the depth of this relationship.

Listen, I would say what I think, it's forestry, that really has supported the town of La Tuque since the beginning of time. Either forest harvesting, wood floating, everything that has lasted a while in the town of La Tuque is related to the forest. There is really nothing else.

The forest, timber harvesting to supply the mill, Hydro-Quebec with the dams, the mill in town, and the sawmills have made La Tuque a forestry city.

These comments, like many others collected, suggest a continuity in the history of the Haut-St.-Maurice's forest dependency. Respondents intertwined stories about the past of the community with present events, and often used the name of the mill owner as a benchmark to distinguish the period they are referring to. They talked about the Browns when referring to the early days of the town, and about Canadian International Paper (CIP) under which the community grew for many years. Finally they talk about "after-CIP", a period that covers the recent years of turmoil faced by the community. As analysis of the interviews revealed, each of these eras left their imprint on community capacity, and the sections that follow portray the main elements that have shaped the Haut-St.-Maurice's community capacity for each of these three historical periods.



### 3.5.2.1 The Brown era: initiating community capacity (1910s–mid 1950s)

As shown in the following interview quotations, respondents identified the development of industrial infrastructure, namely the pulp mill and dams, as key events in the foundation of their community.

The most important (event) was in 1910, 1909–1910, the arrival of the forest company that led to the foundation of the town. Even if there was already a village that existed at that time it was really in an embryonic state. The arrival of the Brown Corporation is really what marked the industrial future of this region.

The first events were the construction of the dam by the Shawinigan water and power, the construction of the mill by the Browns.

The important role of the Brown family in establishing the pulp mill is clear from these statements, and their involvement in the overall community development is emphasized in other comments.

The founders of the mills were an important factor in community development because they took care of it. They took care of their employees, in addition to providing jobs, they took care of their community life.

La Tuque was well structured in terms of urbanism because of the mother company, which was the Brown brothers, the Brown Corporation. They had town planners at that time. And it was they who laid out the cities, the forest companies.

The efforts the Browns made to organize the community were essential for the young community because the construction of the mill and the beginning of its operations created a population boom. From a village of 40 residents in 1887, La Tuque became a town of 2,034 people in 1911 and, by 1920, there were 5,603 residents (Bouthillier *et al.* 1997).

As the interviewees pointed out, the needs in terms of professional skills in the young community brought two distinct groups to town: a group of English-speaking professionals and merchants, and a French-speaking workforce. The following comments recall some of this stratification:

There were many, many English stores, I remember that they were English-speaking people. The bosses at the mill, they were all English speaking, they used to live on Beckler Street at that time.

Like any other industrial town (in Quebec), the bosses were English and the workers were French-Canadian, at that time. So we had our "English Street" which is Beckler Street.

Although the differences between these two groups in terms of employment, culture, and religion were important, efforts were made to bring them together in other activities such as the recreational activities at the Community Club. This infrastructure, erected in 1920 by the Brown Corporation, stands out as an important one for the community. Respondents pointed out the central role this recreational facility has played in nurturing social capital since the early days of the community, and the fact that it is still a place for social happenings.

Aside from the Brown family, the Catholic Church was another institution that interviewees strongly associated with the development of their community. The Church was a leader in developing service infrastructure such as the school and hospitals, and in fostering local human and social capital through education, workers unions, or charitable organizations. The prevalence of the Catholic Church described by interviewees was characteristic of the situation in the rest of the province, as at that time the Catholic Church dominated the political, economic, and social landscape of Quebec (Linteau *et al.* 1989).

Once the community was well established, respondents recalled that efforts were made to diversify the local economy and to take advantage of opportunities that arose during both World War II and the economic boom that followed. Between the mid 1940s and the late 1960s the community saw the opening and closing of an aluminum plant, three clothing factories, and a wood furniture plant. Respondents cite these examples to show that efforts were made to broaden the economic base of the community, even though they were unsuccessful and left the community with only the pulp mill.

### 3.5.2.2 The CIP era: consolidating community capacity (mid 1950s - end of the 1980s)

The acquisition of the Brown Corporation assets in the Haut-St.-Maurice by CIP in 1954 marked a turn in the community's life. CIP, a sister of the multinational International Paper, moved away from the paternalist management style of the Brown's to a business management style that led to a redefinition of the relationship between the mill owner and the community.

An important change that respondents associated with the transfer of ownership from the Brown Corporation to CIP, was a greater devolution of responsibility to the community in terms of management and development of infrastructure. Although CIP maintained a strong grip on the town's administration, respondents presented this change as an important shift for the community. The community took on a greater role in offering services to its citizens by acquiring the Community Club and ensuring its survival, and then by improving leisure and recreation opportunities. According to respondents, the availability of and affordable access to facilities such as the library, the ski center or the city campground were, and still are, important assets for the community and contribute to make it an interesting place to live.

However a financial burden was incurred with community's involvement in infrastructure development and management. Because the mill owner had traditionally absorbed most of those costs, the burden suddenly appeared heavy for many residents and that became an issue. Respondents told us that projects requiring considerable public investment repeatedly raised controversy, and sometimes divided the community for a while. In order to deal with the controversy raised by such proposed projects, in 1959 the community began holding referendums. Since then, at least five referendums have been held on projects designed to improve institutional, leisure, or security infrastructures. Interviewees pointed out that referendums have become a means for public consultation on issues related to financing of infrastructure, one that provides an opportunity for public debate and keeps residents involved in local politics.

Nonetheless, although the community has been able to debate and critique its local government, the mill's actions and the mill's impacts on residents' health, or on the environment, are sensitive subjects that were not publicly discussed. Even though many interviewees made cynical remarks about the power of the company over the community by referring to it as "*Mother CIP*," a few comments elaborated on the restrictions that people impose on their discussions of the company.

Here in La Tuque, the mill, nobody touches that (the mill). Because if we talk about pollution, we have to shut our mouth because they are the one, it's the local industry, it's the lung of La Tuque even if they are the one that is poisoning us. But all that, we can't talk about it.

We all keep our mouths shut, you know, [...] Imagine, you're also breathing that. But here is no one, no one is going to talk about it. We're all going to keep it quiet because we make a living out of that industry, if it's not there anymore what are we going to do? The mill, that's the boss around here, you'll never hear someone talk against it, we heat chips, we eat... Nobody is going to take the stand and talk publicly against the CIP mill, not even an open letter in the newspaper because your brother is working there, your father is working there, you know if you talk against the mill, nobody is going to talk to you anymore.

The latter comments show how entrenched the mill is in the life of locals. The relationship runs deep, as everything in town revolves around the mill and follows its cycles. Respondents suggested that over the years, CIP's presence was associated with a sense of stability, as people believed that the mill needed the workers as much as the workers needed the mill. A pernicious effect of the mill's prevalence with regard to job opportunities is that it undermines the value placed on education and entrepreneurship. The following comments illustrate the legacy of this period regarding the development of human capital:

Education was not a priority, we feel that a lot now. As long as your father was working at the mill, you would work at the mill. So to be competitive in the type of economy that we are entering now, we need a major shift and it's hard to make.

Don't ask what happened to the small businesses, there was not a guy who wanted to, you know we were almost seen as losers if we didn't work at the mill.

The mill workers would say: You earn nothing compared to me. You know.

Interviewees also mentioned the fact that a "job at the mill" enabled workers to become part of a privileged social class in the community and that was an important motive to join the mill's workforce. They emphasized the wealth of CIP workers compared with other residents. Respondents' comments, although acknowledging that the linguistic division of the early days has faded away as French-speaking people accessed management positions, revealed a segmented labor market, not only in terms of salary but also in terms of gender. As explained in the next quotation, important changes were to happen in the late 1980s and they would affect both the social hierarchy and the lifestyle that had developed around the mill.

Before, the young fellow whose father was working at the mill didn't have to think too long, he might do a professional course and he would say "When I'm done with that course I'm going to take a job until I make it into the mill." It's not like that anymore and people are starting to realize it. We are in the middle of a change of mindset. We still feel the old mindset although it's less present. Because before that, the typical picture was that the men would be working at the mill while the women worked at the hospital, the school or somewhere else. It was a two-income situation and it was the car, the 4X4, the four wheel, the snowmobile, the cottage...the whole package. Nowadays it's not like that as much, we are facing the fact that this reality is not there anymore and even the people who still are in that situation are realizing that there have been important changes in La Tuque and we need to be open to changes.

#### *3.5.2.2.1 Social capital: an asset rooted in the CIP era*

Although interviews revealed an important split in terms of economic status between the mill's workforce and the rest of the community, they also emphasized a sense of cohesion that did not reflect this dichotomy. They talked about solidarity and generosity of residents without making any distinctions between groups in the community. Social capital is presented as a key asset for the community and one that contributes to the sense of community.

Social fabric is well developed [...] when it's time to help, people have a good capacity of working together for the good of the community.

It's a population who is extremely generous. Empathic,...] if someone is in need, we're going to make structures; we're going to collect things. They are generous, they are very very conscious of what they have compared to others that have less, and that touches them.

As for providing an example of how the community can work together on a continual basis and not only in the case of an emergency, many interviewees talked about the one-day fundraising campaign that has been held annually since 1962. The campaign is aimed at collecting money to support the activities of local volunteer organizations and, in 1996 it raised \$86,000 (Langlais 1996). This fundraising campaign, as well as other local ones, has become especially important to replace the funds that the Church used to channel into community services and organizations. In the Haut-St.-Maurice, as in the rest of the province, the Catholic Church's influence on society has decreased dramatically as the government took over the education and health systems, and lay people took over a significant part of community services and organizations. Interviewees point out that the reduced presence of the Church has led to the emergence of local leaders and development of new skills in organizing community events and running community organizations. However, interviewees also noted that the end of the 1970s marked a peak in terms of community activities, there is not as much enthusiasm for organizing or attending activities such as festivals nowadays. They associated this decreasing interest in community activities to a weakening in the social life and social ties.

#### 3.5.2.2.2 *Greater access to public lands: a milestone in the CIP era*

Regarding natural resources, respondents pointed out two changes in forest policies that took place in the 1970s that opened public lands to recreation, and improved the local quality of life by providing opportunities for everyone to make the local forests part of their life. The first change that most interviewees talked about is the abolition of private hunting and fishing clubs on public lands. They recalled that, although these clubs were helpful in giving birth to the tourism industry, they were inaccessible to most community members because of membership policies and fees. The private hunting and fishing clubs

represented a symbol of the limited access that locals had to public forests to practice hunting and fishing activities.

The private fishing and hunting clubs controlled access to the public lands they managed and the forest companies had gates on roads that limited access to other large tracts of public lands. The change in policy that forced forest companies to remove their gates was the second change that interviewees talked about. Both changes, the system put in place to manage fishing and hunting activities after the abolition of private clubs, and the removal of the gates on forest roads, are referred to as successes in terms of democratization of access to public lands. According to interviewees, this is important because the time they spend in the forest for activities other than work, contributes greatly to their quality of life. Forest activities are seen as such an important part of local life now, that some suggested that residents who don't enjoy going into the woods do not last long in the Haut-St.-Maurice.

These changes in forest policy in the mid 1970s affected not only personal use of public lands. Respondents associated with the forest sector pointed out that these changes also broke the control that companies had over timber located within their timber limits. As a result, the timber that these companies were *not* using became available for other users, and new wood-processing facilities were established throughout the province. The Haut-St.-Maurice saw the opening of a veneer mill in La Tuque and a sawmill in Parent.

### 3.5.2.3 The post-CIP years: coping with uncertainty (end of 1980s–1996)

The late 1980s and the beginning of the 1990s mark a period that respondents associated with instability and uncertainty for the community. They remembered numerous indications regarding the problems faced by the mill in trying to remain competitive in the market, and these indications fed a growing concern about the mill's future. The closure of a CIP paper mill in a neighboring region in 1992 brought the level of concern to a new high. Respondents stressed that the reorganization at CIP, and change in corporate ownership in the early 1990s, also contributed to the increasing uncertainty about the long-

term plan for the mill. Interviewees associated the increasing number of houses put up for sale during that period with a high level of concern by residents about their future in the community. The vulnerability associated with the heavy reliance on the mill suddenly became evident to the community and a sense of emergency developed in the face of imminent changes at the mill.

Aside from the change in ownership, the state of the mill became an important factor in assessing the resources needed to weather the changes the community was facing. The following quotation conveys the disappointment that the community experienced as it found out about the state of the mill that provided them with a livelihood:

We woke up one day with a mill with outdated equipment that needed major investments and there was a frustration within the community. You see we were a mill running full time, so people understood that we've been used for many years, we've been used to modernize Gatineau's mill and provide dividends to shareholders. During that time, our mill was getting older and older, and we were only putting paint on it.

It is surprising that despite the strong presence of the mill in the community both in terms of its physical structure, which dominated the urban landscape, and its impact on people and community life, residents were not more aware of the state of the mill. Still, as noted earlier, the actions of the company were not a common subject of discussion in the community and, as shown in the following comments, even in the period of uncertainty, it was not easy to go around and ask questions about the mill's future.

I remember at that time some were saying: We cannot, we can't do anything it's the market that is doing that." And we would say: "yes, but we should go meet the director of the mill to know what's going to happen to us." Then they would say: "That's none of our business, it's interfering." So there was like two different visions of things. Finally we succeeded in agreeing, agreeing that it was not interfering with the mill management to ask what was going to happen. [...] At this point there was a mobilization in the community and we realized that we had to do something to make up for the layoffs at the mill, to minimize their impact.

The uncertainty brought community leaders from different sectors together and pushed them to work on alternatives. Many interviewees pointed out that the stakes were high enough to overcome past conflicts or jurisdiction problems between agencies and bring



people together to work on solutions. Aside from the cooperation that developed between various community institutions, interviewees cited different initiatives, such as hiring an industrial commissioner, the creation of a forest industrial park, and the creation of a small business incubator that facilitated the emergence of new economic activities. Overall, respondents saw the crisis with the mill as a catalyst for local leadership because new voices emerged within the community and brought a sense of empowerment in terms of economic and social development. Many interviewees noted that the community had come to realize that its future was in its own hands, and that leaders were there to help the community move forward.

#### *3.5.2.3.1 New mill owner, renewed leadership, and revived hopes in the post-CIP years*

In 1994, La Tuque's mill became part of a new forest company, St.-Lawrence Paperboard, and this change in ownership is seen as positive for the community. Respondents noted that, although the mill was still under an absentee corporate ownership, the headquarters had developed closer links with the community than the previous owners. Many also suggested that, although the mill was only one among many for CIP, it plays a central role in the operation of the new owner. To illustrate that idea, one respondent said:

The difference with St. Lawrence Paperboard is that they made important investments in the mill, and the workers are playing a role in the company. La Tuque mill is also an important mill for this company, it's not the tail of the wagon anymore. There is also the community which is more wary not to become the milk cow of a company again, we have to watch that investments are made so that we won't get back to the same situation that we were in.

The substantial investment made by the new corporation to meet environmental regulations and upgrade processing facilities, the new partnership between the company and its workers, and the more efficient use of fiber supply were all elements that contributed to restoring residents' confidence in the future of their mill.

A side effect of the mill's reorganization was the layoff of many employees. However, not minimizing the importance of that change in people's lives, interviewees noted that many ex-mill workers have seized this opportunity to start a business.

It did not happen overnight, because when the downsizing took place it was a shock everybody felt and nothing was happening. Then one day, Oops! You saw a small business started, and another, and another... People had no choice but to take control of their future.

If you'd asked me that question four or five years ago, it would have been fairly negative because people were sleeping in front of that big industry. But now, I think that people have developed a spirit of entrepreneurship that was not as present. We rediscovered those qualities now.

This wave of entrepreneurship raises hopes among the interviewees but also questions regarding the long-term survival of these businesses, because the new entrepreneurs have to learn the art of running a business. However, respondents point out that the community has set up financial and technical services to assist young entrepreneurs. For example, a venture fund was put together by a partnership made up of municipalities, the Atikamekw Nation Council, the local Credit Union, and provincial and federal government organizations to support the creation and development of local businesses. An additional challenge for many local small businesses identified by interviewees is to have a diversified clientele and not rely on the mill that often provided them with their first contract.

Overall, interviewees noted that the period of uncertainty faced by the community revived the efforts to strengthen the local economic base, and that forestry activities and tourism were the two sectors that captured their imagination. It might seem paradoxical that a community heavily dependent on a forest mill would target the forest sector to diversify its economy. However, as shown in the following excerpts, by attracting other mills, the community went from dependence on a single mill to dependence on a more diversified forest sector.

Basically we were a single industry, now we are, we are more diversified but it's still dependent upon a natural resource which is the forest. Before it was only

paper, now we have the paper plus the sawmills and other related businesses. If you like we went from single industry to single resource.

The industries that have come here are strong industries, but they remain in the forest sector with their cycles. However, now it's a little more diversified because before we only had a paper maker, now we have a paper maker and also sawmill industries.

Also, as interviewees explained it, changes in the provincial forest policy regarding the allocation of timber supply from public lands created opportunities for development within the forest sector, and the community tried its best to take advantage of some of those opportunities. For example, it developed a "Forest industrial park" that provides services to forest enterprises located within its limits. Some interviewees associated this initiative with the proactive attitude of local leaders regarding economic development, and their willingness to be active partners in that development.

The community also devoted increasing efforts to capturing its share of the development associated with a growing demand for tourism activities. However, as pointed out by many respondents, especially those connected to the forest sector, jobs in tourism are not as appealing as those in the forest industry and tourism should not become the main path of community development. Nevertheless, respondents generally support the idea that greater efforts should be devoted to develop this industry.

So, we would like to work on that because the wood-processing industry it's a profitable industry, there are important investments and there is an interesting level of employment, when you look at the tourism industry it's not the most interesting niche for employment. It's seasonal, not really well paid. It helps out but you can't build a region around tourism. It has, tourism has to be an appendix but it should not be the center, unless you are into big tourism like in Montreal, or Quebec with big hotels and so on.

For me, the second industry here is tourism, so to really do something, we have to invest money to organize things that are going to be maintained. If the mill closes, the small town, it's over then, nothing is going to work if this mill shut down. We're going to be facing nothing if we haven't thought of developing something else. And I think that it should be tourism.

### 3.5.2.3.2 *Emerging challenges in maintaining human and social capital in the post-CIP years*

Respondents also raised two issues related to human capital and its effect on the social capital of the community: the difficulty in integrating outsiders, and losing youth to out-migration. Although neither of these issues is new to the community, respondents point out that there is a growing awareness about the social cost paid by the community because of the loss or misuse of human capital represented by youth and outsiders. The problem with outsiders arises from the fact that even after 20 years of living in the community and participating in its life, people are still labeled "outsiders." As a couple of interviewees pointed out, the feeling of alienation can be enough to push some to go back to the region they came from for retirement, or look elsewhere for a new job.

As for the exodus of youth from the community, it is strongly associated with the pursuit of higher education. According to interviewees, this drains an important source of human capital from the community, people who had strong roots and knowledge of the community, and who could have made major contributions to the community. Many interviewees noted that the lack of cultural infrastructures to showcase the arts or present artistic performances, and higher educational institutions contributes to the outmigration and reduces the appeal of the community for young professionals or families.

### 3.5.2.3.3 *Opportunities arising from and questions about forest management in the post-CIP years*

Interviewees generally perceived the changes made in forest policy in the late 1980s as positive ones that increased community capacity. According to interviewees, the enactment of the 1987 forest law and regulations brought new economic opportunities, provided better control over the impact of industrial forest activities, and opened the door to participation by locals in the management of public forests.

Aside from recognizing that the more efficient timber allocation system initiated by the new forest policy facilitated the establishment of sawmills in the region, respondents also

point out that intensification in forest management activities has diversified employment opportunities.

By revising the analysis, a redistribution of wood supply [...] The government was able to implement mechanisms that prevented the forest industry from sitting on reserve like that. Available timber is used. I think that we can consider that to be positive.

I think that it has opened new possibilities, because now there are more groups involved in forestry. There are the ones who do the planning, the ones who do the harvesting, the ones who do the reforestation, the ones who do the checking, that bring different expertise. I imagine that, for forest contractors or the large forest industry that means more employees. Thus, for the community there are probably benefits.

Interviewees also support the stronger regulations and obligations that the new policy has imposed on forest companies that harvest timber from public lands. Although this was seen as an additional cost for the industry, it was also seen as an improvement in management on public land compared with the previous tenure system.

I don't know if we're cutting more wood than before, I don't really grasp that notion, but I think that we are harvesting the forest in a broader sense. If I can compare, in the time of timber limits, I think that at this time it was easier for the foresters, well it was less costly. With the Timber Supply and Forest Management Agreement it's more restrictive now, although that does not prevent forest harvesting but it's a better harvesting.

The Timber Supply and Forest Management Agreement in my opinion, that's an economic constraint that's clear because the enterprises they have to share the forest and they have to collaborate for harvesting, but for the forest I think that, from an ecological perspective, that has been a tremendous contribution, in my opinion.

Despite these positive comments about changes in forest policy, and despite the fact that for the first time forest legislation clearly stated a commitment toward a sustained yield of timber on public land, interviewees revealed numerous concerns about the rate of harvesting in the region. The increasing number of mills operating, and the political negotiations behind the allocation of timber supply were examples used by respondents to voice their concerns. Thus, even if they acknowledged recent efforts in forest policy to ensure forest renewal, they questioned the overall state of the forest, the long-term

availability of timber supply for local mills, and the capacity of managers to sustain the resource.

If we are going to run out of wood in 20–25 years, the mills will close. Maybe we should want less timber supply given to companies, accept that there might be fewer mills and look for other things on the side...to make sure that our economy will work in the long run.

Surely, an equilibrium in forest harvesting so that, this forest can be regenerated and that it remains eternally for my children, my grandchildren, my great-grandchildren. I don't want us to have a big bag of candy and that we eat them all and then there is nothing left. So I hope that it's going to be managed in an intelligent way. So that our richness can last, that's our richness. When you see towns like Shefferville, they had a mine, they exploited it, and the town is closed. I don't want that for La Tuque, I mean we have an exceptional resource and it should last over time.

Another topic closely associated with that concern about management of public land is the need to review the decision-making process about management of these lands. Although interviewees recognized that changes in forest policy have forced the forest industry to talk with other forest users, some want a greater say.

What started all that it's the new forest policy, we should not be kidding ourselves. The new forest policy and the obligation to go consulting, and also to avoid trouble, we realized that the way to prevent problems with these people (non-industrial users) is to inform them.

Nowadays, with the common areas, the Timber Supply and Forest Management Agreement, people have an obligation to discuss with outfitters. Now it's not: My timber limit. It's not: It's mine, and get out, I'll do what I want here. It belongs to everyone. Yes you are, let's say the beneficiary, you have the right to harvest timber but there are other people around with whom you have to work.

The Timber Supply and Forest Management Agreement for us at least, in terms of contacts that's a good thing because we are consulted for the Timber Supply and Forest Management Agreement. Ok we have a word to say although they can completely ignore us if they want. They have to listen, just hearing that's ok, not listen to us, just hear us.

The main complaint revolves around the need to move from public consultation to a process where the decision-making power is shared among all stakeholders and not

controlled by the forest industry. The respondents promoting these changes, want locals to have an opportunity to play a greater role in managing public forests: one that would force the integration of local concerns such as visual aesthetics with the economic concerns of the forest industry. Still, as much as some people want these changes, others are more concerned about the devolution of power onto the community.

I understand also that I don't have to immerse myself in the political and administrative spheres regarding forest harvesting *per se*, but I want to have my say with regard to the ecosystem for example. For me it's very important, they cannot destroy it anymore. They take the resources, then they have to see that it's been regenerated, and that has to be done with full accounting for the environment. There should be a witness to these actions, with a power of decision. That would please me greatly.

Well the community, what they are requesting, I won't deny that's an involvement in management. Me, that scares me a lot, I won't deny it, because, forest management in terms of involvement if you want, in terms of values, eh, it depends on who in the community and how it is done. Me, personally I think that the actual policy is able to answer all the needs of the community as long as there is good will on both sides.

### 3.6 DISCUSSION

Comments collected regarding the Haut-St.-Maurice's community capacity revealed the strong impact that forest dependency has had on community capacity since the establishment of the community. Overall, a number of points stood out regarding the development of community capacity over time.

- First, the mill owners were found to have a strong hold on the community, especially in the early days of the community. Although this facilitated the development of infrastructure in the young community, it delayed the emergence of community empowerment and local leadership.
- Second, the heavy reliance of the community on the mill for employment opportunities generated a lack of investment in human capital.

- Finally, changes in provincial forest policy created new opportunities for the community by allowing greater access to public lands and the resources on them.

### 3.6.1 The community takes over community management from the mill owners

The founders of the mill were omnipresent in the development of the community. The influence they exerted over the community resembles what Beckley (1994) described as a hegemonic power structure, with a corporation overseeing the welfare of a community with its active consent. This type of leadership left a strong imprint on the young community because, by providing for most of its needs, the Brown Corporation prevented the community from providing for itself.

A direct effect of the strong involvement of the Browns in the community is that it got access to infrastructure, such as the water and sewer system, without having to bear much of the installation costs. Although that left a positive legacy for the community in terms of infrastructure in place, it prevented the emergence of community empowerment as locals were not involved in planning or financing the development of their community. The change in ownership of the mill rectified this situation as CIP slowly opened the door to greater community involvement. Local leadership emerged as new needs were expressed. The political leadership took over the development of community's infrastructure. The community was also innovative in introducing a referendum process to address local controversy arising from public investment in community's infrastructure. This has helped establish a certain balance of power between the town council and local residents because, when there is too much disagreement on a specific issue, it gets solved by means of a public consultation.

The development of social capital is another element that was altered by the decreased contribution of mill's owner in the community's organization and social life. Although social capital had developed steadily since the early days of the Haut-St.-Maurice community, it has long been subject to external influences from the mill's owner and the



Catholic Church. The change in ownership to CIP, coupled with the declining power of religious institutions, provided an opportunity for the community to direct its social capital to suit the needs of local people. The funding campaigns, the diversity of services offered by local organizations, and the numerous volunteer organizations are all indicators of this local social capital. Thus, contrary to what Drielsma (1984) asserted about forest communities, outside forces have not maintained their domination over community institutions and precluded the development of a cohesive community life. Furthermore, contrary to what Beckley (1996) observed in Rumford/Mexico, the Haut-St.-Maurice has been able to rely on local leaders to move on after the collapse of the paternalistic era and maintain a strong social fabric.

However, although local residents have gained more control over the social and political realms of their community life, they still have little control over the economic sphere, as it is largely dependent upon outside actors, essentially the forest industry and governments. Still, recently the community has increased its involvement in economic development and has initiated concrete action to promote and facilitate development of businesses, both small and large, through such actions as the establishment of a local small business incubator, and partnerships to develop industrial infrastructures. This marked an important attitudinal change for the community, which moved from a "wait-and-see" policy of economic development, to one where the community acts as a partner with other actors.

### 3.6.2 The challenge of human capital

The strength of social capital and the leadership exerted by the community in developing its economic and social assets both attest to the existence of a diversity of skills and knowledge at the local level, and also the willingness of residents to ensure the community benefits from these skills. This constitutes a positive asset for the community in terms of human capital and one that enhances community capacity.

However, other problems associated with human capital were found to constrain community capacity. The long-time community dependency on the mill for employment

opportunities has generated a fairly homogenous technical skill set in the community, and low levels of entrepreneurship and educational attainment. The observed pattern fits what Freudenburg (1992) described as an addictive lifestyle that precludes the diversification of technical and professional skills, as people choose to stay in the main stream of employment. The uncertainty about the mill's future and the layoffs at the mill weakened residents' reliance on the mill for employment, and made them look at alternatives. However, in order to keep the momentum and diversify its human capital, the community faces the challenge of promoting education and developing a culture of employment responsive to a broader set of work opportunities.

### 3.6.3 Institutional arrangements shape the contribution of forest resources to community capacity

Institutional arrangements regarding recreational use and allocation of timber rights in the public forest surrounding the Haut-St.-Maurice have impacted the community's capacity by directing the development of the forest industry and controlling non-timber forest uses. Although interviewees did not identify earlier institutional arrangements as constraints for community capacity, the fact that they point out how changes to forest access and timber forest tenure helped strengthen the capacity of their community shows the limits imposed by previous systems of private fishing and hunting clubs and timber limits. Both systems, which were enforced until the mid 1970s, helped to prevent the development of local entrepreneurship and discouraged use of forest resources by putting these resources out of the reach of local residents. This situation has changed, as forest tenure allocating timber and recreation rights was modified, and forest and recreational management was brought in line with local needs and issues.

The claim for greater local control over the use and management of resources is fed by concerns about forest sustainability, and a desire to obtain more benefits from the forest resource. According to Marchak (1990), residents of forest communities are increasingly looking to play a role in managing the resources they depend upon, as this role has traditionally been denied them. In the Haut-St.-Maurice, increased local participation in

forest management would require that the provincial government agree to share its decision-making power over public lands not only with the forest industry but with local communities as well. To take advantage of such an opportunity, the community would need to develop a better understanding of the outcomes of forestry issues to be able to discuss the various scenarios and define a shared vision of forests use.

A greater community involvement in management of local forest resources is also likely to require additional time and effort by community members, because this would equal the one community members already have in maintaining various local institutions and organizations. Also, the increases in opportunity for the community to voice its concerns in various public forums on issues such as health care, education, or the environment point to a need for the participation of more residents in order to strengthen the community's ability to bring its perspective to these tribunes, or to establish priorities as to where it wants to be actively represented.

### 3.7 CONCLUSION

To understand the scope of the impacts that forest dependency has on community capacity in the Haut-St.-Maurice community, one must look beyond the economic impacts and see how forest dependency has influenced other aspects of the community's life. The paper mill, which is the main employer for the community, determined most of the effects of forest dependency by the way it related to the community and provided a livelihood for its residents. Community capacity has been impacted by the management style adopted by the mill owners and the power they exerted over community affairs. However, it is interesting to see that the community had enough resources in terms of human and social capital to adapt to the changes brought on by the decreased involvement of the mill owner in the community's affairs. Looking back on these events, we can see how little steps added up to strengthen the community's ability to look after itself. However, the assessment did not generate information that was precise enough to fully understand the mechanism behind community empowerment. It would be interesting to document more thoroughly the transitional phase to see where the leadership emerged from, and how new structure and

processes were put in place in the community. This could help us understand what is missing in other communities that are less successful in facing similar hardships.

This study also revealed how important it is to document not only the presence of an element contributing to community capacity but also the state of that element. Results from the Haut-St.-Maurice show that the presence of an element such as social capital does not inform us about the potential of this element to contribute to community capacity in the long run. For example, the mill and the forest resources actually make significant contributions to the community but their reliability in this role is directly related to the state of these resources, and if they are neglected it is likely to impact the future capacity of the community to adapt. Thus, assessing only the presence of a resource without looking at its condition might create an illusion of security and delay discussions and actions regarding this resource.

This study pointed out direct effects that forest policy had on community capacity, especially with regard to land use. The allocation of forest resources from Quebec's public lands has traditionally been directed at industrial users, who were entrusted with the management of most of the land base, leaving little room to test alternative models. Among the alternative models, one could allow local communities to use public lands to strengthen their capacity. To start addressing the issue of public land management and devolution of power towards local communities, it would be interesting to examine the effects the devolution of power regarding management of public lands has had in other communities and to examine what type of system would create a balance between the needs of the community and those of industrial forest users. The goal being not to push the industry out of a community where it is an important actor, but to define a new balance that would improve the capacity of the community to fulfill its diverse needs.

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**4. ATTITUDES TOWARD COMMUNITY CAPACITY IN FOREST-BASED  
COMMUNITIES: DIFFERENCES AND COMMONALITIES WITHIN AN  
INDUSTRIAL COMMUNITY**

**Solange Nadeau and Bruce Shindler**

#### **4. ATTITUDES TOWARD COMMUNITY CAPACITY IN FOREST-BASED COMMUNITIES: DIFFERENCES AND COMMONALITIES WITHIN AN INDUSTRIAL COMMUNITY**

##### **4.1 INTRODUCTION**

Forest-based communities, especially those dependent on the forest industry, are facing important challenges today. New technologies resulting in a more efficient use of wood and a reduced need for labor, market globalization, and concentration of ownership have changed the face of the forest industry, and impacted forest-based communities. Changing environmental values, diverse forest uses, and increased ecological knowledge of forest ecosystems have all contributed to the emergence of more comprehensive frameworks for forest management (*e.g.*, ecosystem management, sustainable forest management).

Over the last 10 years, scholars have begun to focus their attention on how forest-based communities deal with change. They have assessed which features of communities facilitate or constrain their ability to deal with changes (*i.e.*, community capacity) (Doak and Kusel 1996, FEMAT 1993, Harris *et al.* 1998). In general, assessments of community capacity have focused on describing the contribution made by a community's infrastructure, social and human capital, and natural resources (FEMAT 1993, Flora, *et al.* 1992, Kusel 1996) and they have focused on the community as a whole. Community capacity is rooted in the residents' willingness to participate in various spheres of activities within their community; however, most studies to date have overlooked the values and attitudes of residents about such things as options for economic development, employment opportunities, or social cohesion, which influence community capacity.

Previous in-depth studies of forest communities have revealed internal differences regarding the vision that members have of their community and its relationship to the surrounding environment (Brown 1995, Carroll 1995, Knott 1998). Others have also pointed out that sociodemographic characteristics, such as affiliation with the forest sector or educational level, influenced people's attitudes on community issues (Satterfield and

Gregory 1998, Solecki 1998). These studies attest to the relevance of looking beyond the community as a single entity to explore the range of attitudes within a community and to identify areas of common concerns, as well as concerns that are specific to certain groups. In the case of community capacity assessment, documenting attitudinal differences on key local issues could reveal whether some groups experience or perceive greater difficulties than do others when contributing to the economic, political, or social life of the community.

This paper looks at such attitudinal differences in an industrial forest-based community: the Haut-St.-Maurice community in Quebec, Canada. The objectives of the study were to:

- uncover residents' attitudes towards key issues that impact the capacity of their community to face changes;
- determine whether differences in attitudes among residents were associated with social or demographic characteristics.

Information was gathered through interviews to identify key issues pertaining to local infrastructure, natural resources, and social and human capital that have a bearing on community capacity. Residents' attitudes towards these issues were then assessed by means of a mail survey. Information gleaned from the responses served to identify which groups were sensitive to specific issues, and provided guidance to the community on where to channel its efforts to strengthen community capacity.

## 4.2 RESEARCH SETTING

The Haut-St.-Maurice community is located in the middle of the inhabited territory of the province of Quebec.<sup>1</sup> This region is heavily forested and almost 90% of the 26 000 km<sup>2</sup> of forests are under public ownership (MRC du Haut-Saint-Maurice and Nove environnement

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<sup>1</sup> The boundaries of the Haut-St.-Maurice used here are those of the regional county municipality of the Haut-St.-Maurice.

Inc. 1995). A native and a non-native community inhabit this territory. These two communities have different economic, social, cultural, and political institutions that distinguish them. For the purpose of this study, the focus has been set on the non-native community that depends on the forest industry. This community has a population of 13,700, 88% of whom live in the city of La Tuque (Statistics Canada 1999). The remainder are spread among the four smaller localities that make up the Haut-St.-Maurice community: Langelier, La Bostonnais, Lac Édouard, and Parent.

Settlement of the Haut-St.-Maurice community has been closely intertwined with the development of the pulp and paper industry in eastern Canada since the early 20<sup>th</sup> century. Even today, the community remains highly dependent upon wood-processing activities (Canessa 2000). The enduring relationship between the community and the forest industry was a major factor in the selection process for this study. This relationship is embedded in the local identity and spans all generations. As such, it has likely influenced the values and attitudes of a large number of residents. The geographic isolation of the community also played a role in its selection. Because the closest neighboring community is more than 100 kilometers away, it likely has had only a limited effect on the values and attitudes found in the Haut-St.-Maurice.

#### 4.3 RESEARCH DESIGN AND APPROACH

##### 4.3.1 Study approach

This study used an inductive approach. Instead of testing a hypothesis, we chose to gather information to gain an understanding of residents' perspectives regarding community capacity, and then identify the differences that might exist between the various groups within the community. By focusing on an individual community, we were able to explore local issues in depth and uncover attitudinal differences within the community regarding those issues.

A combination of qualitative and quantitative methods was used to conduct the study. The literature on forest communities suggests avoiding the use of quantitative data alone

(Beckley and Korber 1995, Lugg 1998), because this form of data often misses critical elements that are best represented in qualitative terms. The use of different methods also offers an opportunity for triangulation, thereby improving reliability.

The first phase of this research consisted of a series of semi-structured interviews with key informants to explore community issues related to community capacity. The interviews were used to collect information about residents' attitudes regarding the capacity of their community to adapt to change. A set of key issues pertaining to each element of community capacity (*i.e.*, infrastructure, social capital, human capital, and natural resources) was then identified. Many authors stress the importance of this phase of fieldwork when designing survey questionnaires intended to address local concerns (Falk and Pinhey 1978, Fitchen 1990, Solecki 1998).

#### 4.3.1.1 Issues uncovered in interviews

The need for economic diversification was a central issue associated with infrastructure and its contribution to community capacity. As the economic base of the community is heavily concentrated within the forest sector, interviewees saw tourism as an interesting alternative for economic development. However, interviewees questioned the interest and ability of local residents to work outside the forest sector. They pointed out that the predominance of employment at the local cardboard mill has shaped the lifestyle of local people and colored their attitudes toward work opportunities. They believe the development of work skills and attitudes toward employment are strongly driven by the expectation of working at the cardboard mill.

As for social capital, the interviews revealed an important network of civic organizations that constitute the heart of the community. Interviewees emphasized the importance of social cohesion and leadership as important assets for their community but raised issues about the capacity of their community to maintain these assets. Forest resources were presented as another asset for the community, but here again the ability to maintain these resources in the future was questioned. Although some interviewees were quite confident

of the future of their local forests, others discussed important fears about resource sustainability. They compared potential threats to their community with the closing of a mining town on the Quebec North Shore, or with the mismanagement of the cod fishery that devastated fishing communities in Eastern Canada in the early 1990s. They hope that the forest resource that constitutes the backbone of the Haut-St.-Maurice economy will not be similarly depleted.

#### 4.3.1.2 Survey topics

The findings from the interviews directed the selection of topics addressed in the survey. The issue of tourism was addressed by a set of questions dealing with effects of tourism on the community in terms of crowding and changes in the local economic base. The questions that related to attitudes toward work opportunities focused on identifying work opportunities for youth, on whether jobs provided sufficient income to ensure an adequate lifestyle, and on the overall state of the local job market. As for social cohesion, attitudes and perceptions on this issue were assessed through questions related to leadership, and the ease of participation in the community's life. Finally, the issue of forest sustainability was addressed through a set of questions on forest management and sustainability of forest practices.

#### 4.3.1.3 Selection of sociodemographic variables

A review of relevant literature addressing attitudinal differences pertaining to topics introduced in the survey guided the selection of sociodemographic variables. The objective of the review was to identify variables that might have some bearing on attitudes expressed by respondents on issues presented in the survey.

Regarding the issue of tourism as an option for economic development, studies have shown that, despite the economic benefit that tourism may bring to a community, locals have different attitudes toward the acceptability of this activity in their community (Martin 1995, Perdue *et al.* 1990). Allen *et al.* (1988) found that age and education influenced

residents' attitudes regarding the effects of tourism on their community. On a somewhat related matter, other research has stressed that length of residency influences residents' attitudes towards development and use of public lands (Blahna and Yonts-Shepard 1989, Fortmann and Kusel 1990, Krannich and Smith 1998). Given that tourism activities in the Haut-St.-Maurice are largely taking place on public lands, residents' attitudes toward public land use may also affect their attitudes toward tourism.

As for variables that affect residents' attitudes regarding social cohesion, Fortmann and Kusel (1990) found that length of residency affected how residents of forest-based communities assessed this characteristic. Other studies point to gender as an important factor to consider because women play a key role in developing and maintaining the social fabric in forest-based communities (Carroll 1995, Halseth and Lo 1999, Kusel *et al.* 1991). The role women play in the social life of these communities may influence their assessment of issues such as social cohesion or community leadership.

Employment is another area where attitudes may differ according to gender. Forest-based communities in general have a male-dominated employment sector that relegates women to low-wage and part-time jobs (Brown 1995, Halseth and Lo 1999, Marchak 1983). Thus, the attitudes men and women in these communities express toward employment may be affected by this segmentation. Age is another variable that likely affects residents' attitudes on employment issues, because the occupational structure of the job market in forest-based communities has been found to be detrimental to young people, who are more subject to unemployment and out-migration (Johnson and Stallmann 1994, Ostry 1999).

Studies have revealed that forest-dependent communities display a variety of attitudes toward the local forest resource (Hansis 1995, Hays 1990). Thus, the dependence that exists between the local residents and the forest resource does not preclude the existence of a range of attitudes on forest-related issues. These studies point out that specific factors, such as place of residency or affiliation with the natural resources sector, affect how people assess issues relating to natural resources (Jones *et al.* 1995, Lugg 1998, Satterfield and Gregory 1998).



In the final analysis, the following seven sociodemographic variables were chosen to assess attitudinal differences about the survey's topics: gender, age, level of educational attainment, family income, length of residency, place of residence, and association with the forest sector.

#### 4.3.1.4 Survey design and administration

Although the interviews helped identify topics to be addressed in the survey, questionnaires from other studies (Harris *et al.* 1995, Robinson *et al.* 1997, Shindler *et al.* 1996) were used to help phrase questions and choose accepted question formats. The design and administration of the survey were adapted from Sallant and Dillman (1994). The sample for the mail survey was drawn from the local phone book, which was the most complete source of data available. Three waves of surveys were sent out:

- a letter of introduction and a questionnaire;
- another copy of the questionnaire with a reminder;
- a final reminder (sent out to people who had not yet responded to the first two mailings).

#### 4.3.2 Data analysis

Data analysis involved three major steps. First, frequencies were calculated to provide the distribution of responses for each question. Second, because several survey questions addressed similar attitudes, factor analysis was used as a data reduction technique. According to Lehmann (1989), simplifying the data structure facilitates comparisons between elements, as well as communication of the results. The factors were extracted using the principal component analysis method and rotated using the orthogonal varimax rotation. Once the factors were extracted, a test of reliability was performed on each of them to verify their consistency. Cronbach's alpha was used to verify the internal reliability of each factor and, as suggested by Hair *et al.* (1998), the lower limit of validity was fixed at 0.60. Only factors that met this standard were kept for further analysis;

questions grouped in factors having little reliability were analyzed as independent questions.

Finally, a correlation analysis was performed to assess the degree of association between attitudes and sociodemographic variables. However, before completing this analysis, a summated scale was formed for each factor by adding together each respondent's score for each question included in this factor. The summated scale was then used as a replacement variable in correlation analysis. Two points are important to note regarding the creation of the summated scales. First, when the variables composing a factor had both positive and negative loadings, the data values of the variables with the negative loading were reverse scored to prevent variables with positive loading being cancelled by the one with the negative factor loading. Second, all the "*don't know*" answers were considered as non-responses and were not included in the summated scale, because this response was not part of the continuum represented by the Likert scale that was presented to the respondents, so no meaningful numerical value can be assigned to the "*don't know*" category. However, the "*don't know*" responses did enable us to distinguish between respondents who wanted to state their neutrality and those who did not consider themselves knowledgeable enough to state an opinion. Thus, the percentage of respondents choosing the "*don't know*" category gave some indication of the relevance of a given issue.

Values for the sociodemographic variables were reported as follows. Gender (female/male), place of residence (LaTuque/other localities), and income from forest sector (yes/no) were reported as dichotomous variables. Total yearly income was measured in nine categories, ranging from less than \$10,000 per year to more than \$70,000 per year. Level of educational attainment was measured in nine categories, ranging from elementary school to diploma from graduate school. Respondent age was calculated by subtracting the year of birth provided by the respondents from the year the survey was completed. Finally, each respondent provided the number of years for his or her length of stay in the Haut-St.-Maurice.

## 4.4 RESULTS

### 4.4.1 Profile of mail survey respondents

Some 965 questionnaires were sent out, 54 were undeliverable or refused. A total of 440 questionnaires were completed, giving us a 48% response rate. The letter of introduction included with the questionnaire asked for the person over 16 in the household who had most recently celebrated his or her birthday to complete the survey. This was done to minimize the gender and age bias that might be associated with the source from which our sample was drawn. Despite this precaution, the proportion of male respondents (64%) exceeded that of the region (51%) (Statistics Canada 1999). The age of the respondents ranged from 15 to more than 75 years old, with the largest cohort being 40 to 49 (28%).

Most respondents had a high school diploma (64%), were full-time workers (54%), and had a family income greater than \$30,000 (62%). A large proportion of respondents also depended either on forest harvesting (20%) or wood processing (36%) for a livelihood, but one third of the respondents did not depend on natural resources (*i.e.*, forest, tourism, agriculture, hydro-electricity) for their livelihood. Finally, a large majority of respondents lived in La Tuque (89%) and had resided in the Haut-St.-Maurice region for at least 20 years (78%).

### 4.4.2 Attitudes toward tourism impacts

Questions about tourism were aimed at assessing attitudes toward the overall impact of this sector on the community, as well as respondents' concerns about its potential adverse effects. To assess the overall impact of tourism on the community, respondents had to state their level of agreement with a set of statements. Answers to these questions show that most respondents do not believe that tourism has already had, or will have, negative impacts on the community (Table 1). Most respondents also believe that tourism is an important industry for the community and that both tourism and the forest industry can be developed simultaneously without major conflict. Only the statement comparing tourists

with local people elicited mixed responses. Almost one third of the respondents disagreed that tourists are similar to local people, and almost one third were neutral; however, more than one third agreed with the statement.

TABLE 1: Opinions about the general effects of tourism on the community

	Agree	Neutral	Disagree
Tourism has already had negative impacts on our community.	9%	8%	84%
The development of tourism will have negative impacts on our community.	9%	11%	79%
Tourism is an important industry for this community	91%	5%	5%
Tourism and the forest industry can be developed at the same time without major conflicts.	86%	8%	6%
Tourists visiting the Haut-St.-Maurice are pretty much the same kind of people as those who live here.	39%	30%	31%

To investigate how concerned respondents were about potential effects of tourism on the life of the community, we asked them to rate their level of concern regarding the potential impact of tourism on specific items (Table 2). Most showed few or no concerns about the number of summer houses or the number of people at their favorite recreation site. However, 40% of respondents did express moderate to strong concerns about the number of people at their favorite recreation site. The concerns expressed about the effects of tourism on traffic and on the amount of noise and unruly behavior were also mixed. Although most respondents expressed moderate to strong concerns about these aspects, close to 40% expressed few or no concerns about them. Respondents showed the greatest level of concern about the amount of litter in the forest, with close to 50% expressing strong concerns about it.

TABLE 2: Concerns expressed about specific effects of tourism

	No concerns	Few concerns	Neither	Moderate concerns	Strong concerns
Number of summer houses	37%	18%	19%	17%	9%
Number of people in my favorite recreation site	30%	21%	9%	24%	16%
Traffic on forest roads	20%	21%	6%	33%	21%
Amount of noise and unruly behavior during your recreational activities in the forest	18%	19%	14%	30%	19%
Amount of litter in the woods	5%	13%	5%	32%	46%

#### 4.4.3 Attitudes toward employment

A variety of questions were used to investigate issues related to the employment situation in the community. First, an open-ended question asked respondents if they thought “*there is a range of career opportunities available locally for young people?*” Most (64%) said no. Of the 36% who agreed with the statement, most (80%) proposed the forest sector as an attractive option for young people, 20% suggested tourism, and a little less than 10% suggested the health and education sectors.

In a second set of questions, respondents were asked to state their agreement with a number of sentences addressing issues related to the local job market. As shown in Table 3, most respondents agreed that the forest sector will retain its position as the main sector of employment in the community, and that it offers good working conditions. There was a much lower level of agreement about the potential of the tourism sector to offer such conditions. In fact there were four times as many respondents who were neutral and three times as many who disagreed about the potential of tourism to provide good working conditions, compared with statements about the potential of wood processing or forest harvesting.

Answers to questions addressing the local job market showed that most respondents think that local workers are going to be unemployed a few times during their lives. Still, most respondents disagreed with the suggestion that they would have to leave the community to find work. As for entrepreneurship, 21% agreed with the statement suggesting that they hoped to start their own business in the region, but almost twice as many disagreed with that idea. A high proportion of respondents (22%) answered that they did not know if they would start a business. Finally, the last statement addressed the issue of career opportunities for women in the forest sector. Responses showed that two thirds of the respondents think that this sector offers fewer career opportunities for women than for men.

TABLE 3: Attitude towards employment

	Agree	Neutral	Disagree	Don't know
I think that forest harvesting and wood processing will remain the most important employment sector in our community.	90%	4%	5%	2%
Jobs related to forest harvesting provide wages that are high enough to maintain a lifestyle acceptable for this region.	79%	8%	8%	5%
Jobs related to wood processing provide wages that are high enough to maintain a lifestyle acceptable for this region.	83%	8%	6%	3%
Jobs related to the tourism industry provide wages that are high enough to maintain a lifestyle acceptable for this region.	30%	37%	23%	10%
In this region, most of the workers are going to be unemployed a few times during their lives.	68%	14%	16%	2%
I think I will have to leave this community to find work.	13%	20%	56%	11%
I hope to start my business in this region and be my own boss.	21%	19%	37%	22%
In our community there are fewer career opportunities for women in the forest sector (harvesting and processing) than for men.	66%	12%	17%	5%

#### 4.4.4 Attitudes toward social cohesion and leadership

A set of statements was used to capture respondents' opinions regarding the openness of their community toward newcomers, the overall social cohesion, and the leadership in the community. Most respondents agreed that new residents easily get involved in community activities and disagreed with the statement saying that Haut-St.-Maurice is a rather closed community where newcomers have trouble developing a sense of belonging (Table 4). As for social cohesion within the community, most agreed that solidarity and cooperation were present when facing community issues. Almost all also agreed that volunteer organizations were not facing recruitment problems, but nearly a third of the respondents disagreed with the statement.

Regarding leadership issues, most respondents (66%) agreed that their city council is doing a good job addressing the concerns of local residents. A smaller proportion (46%) thought that community leaders were able to work as a team in order to help the local economy. A statement about the renewal of leadership in the community over the last 5 years produced mixed results, with almost a third of the respondents agreeing with the statement, a third choosing to remain neutral about the issue, and almost a quarter disagreeing with it. Opinion was also divided about the difficulty in achieving a leadership position in the community. Although about a third of the respondents disagreed with the statement that it is hard for local people to achieve a leadership position, one quarter of respondents chose to remain neutral, and another quarter agreed with the statement. The division of opinion persisted when we asked respondents if they agreed that they could personally influence the development of their community. A little more than a third of respondents agreed with the statement, the same proportion remained neutral, and almost 20% disagreed. Overall, the questions about leadership elicited mixed responses, with a large number of respondents taking a neutral stand.

TABLE 4: Attitudes toward social cohesion and leadership

	Agree	Neutral	Disagree	Don't know
New residents in the Haut-St.-Maurice easily get involved in community activities.	50%	21%	17%	11%
The Haut-St.-Maurice community is a rather closed community where newcomers have trouble developing a sense of belonging.	24%	16%	54%	6%
Local residents show solidarity and cooperation when dealing with community issues.	70%	19%	9%	2%
Local clubs and organizations have no problem in finding voluntary help for their activities.	49%	14%	30%	7%
My city council does a good job in addressing concerns of local residents.	66%	22%	10%	2%
Our community leaders work as a team, and that helps our local economy.	46%	26%	19%	10%
Over the last 5 years, I have seen a renewal of leadership in the community.	31%	36%	23%	10%
It is hard for local people to achieve a leadership position in the community.	27%	24%	35%	14%
I feel that I can personally influence how this community develops.	35%	35%	19%	11%

#### 4.4.5 Attitudes toward forest sustainability and management<sup>2</sup>

Respondents were also asked questions pertaining to forest management, the sustainability of this management, and the objectives that should guide it. The first question asked respondents to choose, among a set of four sentences, the one that best described their opinion about current forest management. As shown in Table 5, most respondents thought additional efforts should be devoted to forest management to ensure the future of the forest.

<sup>2</sup> Note that the survey was completed before the 1999 release of "L'erreur boréale", a documentary film criticizing forest management on Quebec's public lands.



Twenty-five percent thought that forest management was poor and that major changes were needed to ensure the future of the resource.

TABLE 5: Satisfaction with forest management

Present forest management is adequate since it ensures the future of our forests.	14%
Additional management efforts are needed to ensure the future of our forests.	57%
Our forests are poorly managed and major changes are needed if we want to ensure their future.	25%
Forest management cannot restore our forests and prevent them from disappearing.	4%

A second set of questions asked respondents to state their agreement with statements about forest management. As shown in Table 6, these questions reveal a range of opinion. A large proportion of respondents (45%) was satisfied with current management of local forests, but close to one third was not. When asked about the sustainability of current wood harvesting levels, a little more than a third of respondents (37%) thought that these levels were sustainable on a long-term basis, and a similar proportion disagreed (39%). There was a greater level of agreement (55%) with the statement that regeneration will not be fast enough to ensure maintenance of wood-processing activities.

A large proportion of respondents (72%) agreed that forest managers on public lands should grant the same importance to all forest resources<sup>3</sup>. However, there was also a good proportion (47%) that agreed that management on public lands should favor timber production over other resources. Thus, a number of people agreed that all forest resources should be treated equally but at the same time agreed that timber should be favored over other resources, as if it was possible pursue these two objectives at the same time.

<sup>3</sup> The introduction accompanying this question identified forest resources as water, wildlife, timber, landscape, and recreation.

TABLE 6: Attitudes toward issues related to forest management

	Agree	Neutral	Disagree	Don't know
I am satisfied with the way local forests are currently managed.	45%	22%	31%	3%
Current wood harvesting is set at levels that can be sustained on a long-term basis.	37%	19%	39%	6%
Natural regeneration and planted trees will not grow fast enough to maintain regional wood-processing activities.	55%	20%	19%	6%
On public lands, managers should give the same importance to all forest resources.	72%	16%	7%	6%
Management of public land should favor timber production over other forest resources.	47%	25%	22%	6%

#### 4.4.6 Relationship between opinions and sociodemographic characteristics

As shown in Table 7, in most cases, factor analysis suggested creating two factors, each grouping two to five statements together. Of the suggested factors, seven passed the reliability test but four were found to have little reliability. These factors were not labeled nor were they used in correlation tests; rather, the questions that were to be included in these factors were treated independently. The correlation tests were run for both single questions and factors, and Table 8 presents the results of these tests.

TABLE 7: Results of the factor analysis<sup>4</sup>

Factor analysis of issues about tourism development	Loadings			$\alpha$
	Factor 1	Factor 2	Factor 3	
<b><i>Apprehension about the impact of tourism on the community</i></b>				0.9
The development of tourism will have negative impacts on our community.	0.939	0.001	-	0.4
Tourism has already had negative impacts on our community.	0.932	-0.005	-	
<b><i>Factor 2</i></b>				
Tourism and the forest industry can be developed without major conflicts.	-0.221	0.729	-	0.4
Tourism is an important industry for this community	-0.002	0.66	-	
Tourists visiting the Haut-St.-Maurice are pretty much the same kind of people as those who live here.	0.140	0.582	-	
<b>Factor analysis of potential impacts of tourism</b>				
<b><i>Apprehension about the impact of tourism on crowding</i></b>				0.8
Number of summer houses	0.865	0.006	-	0.7
Number of people in my favorite recreation site	0.893	0.212	-	
Traffic on forest roads	0.722	0.320	-	
<b><i>Apprehension about the impact of tourism on respectful behavior</i></b>				
Amount of litter in the woods	0.009	0.878	-	0.7
Amount of noise and unruly behavior during your recreational activities in the forest.	0.268	0.801	-	
<b>Factor analysis of issues related to human capital</b>				
<b><i>Confidence in forestry and tourism as a good employment opportunity</i></b>				0.7
Jobs related to wood processing provide wages that are high enough to maintain a lifestyle acceptable for this region.	0.834	-0.03	0.002	0.7
Jobs related to forest harvesting provide wages that are high enough to maintain a lifestyle acceptable for this region.	0.781	-0.18	-0.143	
Jobs related to the tourism industry provide wages that are high enough to maintain a lifestyle acceptable for this region.	0.632	-0.169	0.002	
I think that forest harvesting and wood processing will remain the most important employment sectors in our community.	0.526	0.200	0.100	

<sup>4</sup> Some questions' statements are shortened here to facilitate presentation in table format.

TABLE 7 (Continued)

	Loadings			$\alpha$
	Factor 1	Factor 2	Factor 3	
<b>Factor 2</b>				0.4
Most of the workers are going to be unemployed a few times during their lives.	-0.006	0.752	0.150	
I think I will have to leave this community to find work.	-0.008	0.669	-0.05	
There are fewer career opportunities for women in the forest sector than for men.	0.002	0.580	-0.365	
<b>Factor 3</b>				
I hope to start a business in this region and be my own boss.	0.002	-0.003	0.931	
<b>Factor analysis of issues related to social capital</b>				
<b>Acknowledgment of community leadership</b>				0.7
My city council does a good job in addressing concerns of local residents.	0.781	-0.008	-	
Our community leaders work as a team, and that helps our local economy	0.783	0.008	-	
Over the last 5 years, I have seen a renewal of leadership in the community	0.682	0.223	-	
Local residents show solidarity and cooperation when dealing with community issues.	0.610	0.241	-	
It is hard for local people to achieve a leadership position in the community.	-0.417	-0.155	-	
<b>Ease of participation in community life</b>				0.6
The Haut-St.-Maurice community is a rather closed community where newcomers have trouble developing a sense of belonging.	-0.197	-0.722	-	
New residents in the Haut-St.-Maurice easily get involved in community activities.	0.301	0.657	-	
I feel that I can personally influence how this community develops.	-0.178	0.643	-	
Local clubs and organizations have no problem in finding voluntary help for their activities.	0.299	0.497	-	
<b>Factor analysis of issues related to natural resources</b>				
<b>Confidence in forest management sustainability</b>				0.7
I am satisfied with the way the local forests are currently managed.	0.811	0.147	-	
Current wood harvesting is set at levels that can be sustained on a long-term basis.	0.855	0.174	-	
Natural regeneration and planted trees will not grow fast enough to maintain regional wood-processing activities.	-0.697	0.353	-	
<b>Factor 2</b>				0.3
On public lands, managers should give the same importance to all forest resources.	-0.104	0.76	-	
Management of public land should favor timber production over other forest resources.	0.203	0.715	-	

TABLE 8: Correlation between factors and sociodemographic variables

	Female	Age	Length of residency	Level of education	Family income	Resides in La Tuque	Family income from forest sector
Apprehension about tourism impact on community	n.s.	0.155**	0.133**	-0.276**	-0.183**	n.s.	n.s.
Tourism is an important industry for this community	n.s.	n.s.	0.160**	-0.184**	-0.141**	n.s.	n.s.
Tourists are pretty much the same kind of people as those who live here	n.s.	n.s.	0.155**	-0.192**	-0.136**	n.s.	n.s.
Tourism and the forest industry can be developed without major conflicts	n.s.	n.s.	0.100*	n.s.	n.s.	0.102*	n.s.
Apprehension about the impact of tourism on crowding	n.s.	n.s.	n.s.	-0.101*	n.s.	n.s.	n.s.
Apprehension about the impact of tourism on respectful behavior	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Availability of career opportunities for youth	-0.139**	-0.187**	-0.162**	0.178**	n.s.	n.s.	0.128**
Confidence in forestry and tourism as a good employment opportunity	n.s.	n.s.	0.103*	n.s.	n.s.	n.s.	n.s.
Most of the workers are going to be unemployed during their lives.	n.s.	n.s.	n.s.	-0.138**	-0.302**	n.s.	n.s.
I think I will have to leave this community to find work.	0.111*	-0.111*	n.s.	n.s.	-0.157**	n.s.	n.s.
There are fewer career opportunities for women in the forest sector.	n.s.	n.s.	n.s.	n.s.	0.133**	n.s.	n.s.
I hope to start a business in this region and be my own boss.	n.s.	-0.156**	n.s.	n.s.	-0.174**	n.s.	n.s.
Acknowledgment of community leadership	-0.122*	n.s.	0.221**	n.s.	0.129*	0.167**	n.s.
Ease of participation in community life	-0.129*	n.s.	0.233**	-0.132*	n.s.	0.165**	n.s.
Satisfaction with current forest management	n.s.	-0.103*	n.s.	n.s.	n.s.	0.103*	n.s.
Confidence in forest management sustainability	n.s.	n.s.	n.s.	n.s.	n.s.	0.106*	n.s.
On public lands, managers should give the same importance to all forest resources	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Management of public land should favor timber production over other forest resources.	0.140**	n.s.	0.131**	n.s.	n.s.	-0.180**	n.s.

n.s. Correlation is non-significant

\* Correlation is significant at the 0.05 level

\*\* Correlation is significant at the 0.01 level

#### 4.4.6.1 Attitudinal differences about the impacts of tourism

Respondents' apprehensions about the impact of tourism were associated with a large set of variables. Older people, long-term residents, people with low educational levels or low incomes were more apprehensive about the negative impact of tourism on their community.

Similar patterns were observed with some of the single questions. Statements about the importance of tourism for the community and the similarity between tourists and local residents showed similarities. In each case, long-term residents and people with lower educational levels or lower family incomes were more likely to agree that tourism is an important industry for the community or that tourists are pretty much the same as people who live in the Haut-St.-Maurice. Long-term residents and residents of La Tuque were also more likely to agree that tourism and the forest industry can be developed at the same time without major conflicts. As for apprehension regarding the impact of tourism on crowdedness, residents with lower levels of education were found to express greater concerns. No significant associations were found between potential effects of tourism on respectful behavior and sociodemographic variables.

#### 4.4.6.2 Attitudinal differences about employment issues

Women, older people, and long-term residents were more likely to believe that there were no careers available locally for youth, and people with higher educational levels and those who obtained a portion of their family income from the forest sector were more likely to state that career opportunities are available locally for youth.

Confidence in the forest and tourism industries for employment opportunities was associated only with length of residency. People who have lived in the Haut-St.-Maurice region for a longer period of time expressed a stronger level of confidence about these employment sectors. The statements addressing problems faced in the local job market elicited more varied responses from the different sub-groups. People with higher incomes or higher educational levels were more likely to disagree with the statement that most local workers would be unemployed a few times in their lives. As for the suggestion that

respondents would have to leave the community to find work, women, younger people, and people with low incomes were more likely to agree. Younger people and people with low incomes were also more likely to express interest in starting their own business in the region. Lastly, there was a positive association between family income and agreement with the statement that there were fewer career opportunities available locally in the forest sector for women than for men.

#### 4.4.6.3 Attitudinal differences about leadership and social cohesion

The factors characterizing social capital in the community revealed many differences of opinion. Regarding community leadership, women were less likely to acknowledge community leadership, but long-term residents, people with higher incomes, and people living in La Tuque were more likely to acknowledge this leadership. Ease of participation in community life was also associated with many variables, as women, newcomers, people with low educational levels, and people not living in La Tuque were more likely to perceive difficulties in participating in community life.

#### 4.4.6.4 Attitudinal differences about forest sustainability and management

The question about satisfaction with current forest management showed an association with age and place of residency. Younger people and residents of La Tuque were more likely to express satisfaction with current forest management practices. Place of residency was also associated with respondents' opinions on forest management sustainability, with residents of La Tuque showing greater confidence in its sustainability.

No significant relationship existed between the sociodemographic variables tested and the suggestion that managers should give the same importance to all forest resources found on public lands. However, women and respondents living outside of La Tuque were more inclined to support timber production as a core objective of public land management.

## 4.5 DISCUSSION

Taken as a whole, the results of this study show that most residents of the Haut-St.-Maurice are in agreement on a large number of issues. It provides useful information to identify common ground within the community. However, as initially suspected, there were a number of important attitudinal differences on certain issues and, in many cases, these differences were associated with sociodemographic characteristics. The differences in attitudes noticed between diverse groups within the community point to weak areas that may impair the community's capacity to adapt to change.

### 4.5.1 Impacts of tourism

Overall, the development of tourism is not perceived as a threat, but as a desirable option. According to Perdue *et al.* (1990), this is not surprising as communities with fragile economies are more likely to offer a strong support for tourism. In a similar vein, Smith and Krannich (1998) suggested that communities that are heavily dependent on natural resources may discount the negative impacts of tourism, because it represents such a desirable option for development.

In the Haut-St.-Maurice, although issues related to tourism were not highly controversial, they raised more concern among certain groups of the community, such as long-term residents, older people, people with low incomes or low levels of education. However, despite their concerns, those groups acknowledged the importance of this industry for their community. Thus, they are not rejecting the development of this industry in their community but are expressing worry about the impact it may have. The community should consider documenting how the effects of tourism are distributed among the different groups of residents, with a view to devising measures to mitigate the negative effects of tourism and facilitate harmonious development.



#### 4.5.2 Employment

Overall, the forest sector is still perceived as a key employment sector in the community and one that will retain its predominance in the future. The limited options suggested as career opportunities for young people revealed difficulties envisioning employment opportunities outside this mainstream sector. They also revealed a widespread belief that the community cannot provide interesting career opportunities for young people and this, despite the fact that the community provides goods and services to some 13,000 residents. This means that residents need information about local career prospects. Such information could be disseminated through an awareness campaign forecasting local needs in terms of technical and professional expertise. This would help residents broaden their vision of employment opportunities and facilitate the development of human capital beyond the manual and technical skills needed to work at the mill.

Responses regarding the local employment situation also indicate that groups such as people with low incomes, youth, and women perceive more hurdles in the local job market. To a certain extent, the pattern of answers observed in the Haut-St.-Maurice echoed observations made by other studies that examined the effect of the occupational structure of the employment market in forest-based communities (Halseth and Lo 1999, Marchak 1983). The situation observed in the Haut-St.-Maurice does not seem to be unique, and the community should look at what has been done in other communities to address this job market segmentation. There are certainly opportunities to discuss the problems that part of the population faces in the local job market, and to improve access to work opportunities. Also, because the local cardboard mill has made significant cuts to its workforce, the community should monitor the effects of this cutback on residents' attitudes toward employment because a larger segment of the workforce may occupy less stable, less secure employment in the future.

#### 4.5.3 Leadership and social cohesion

Attitudes toward issues related to social capital revealed some interesting patterns. We saw that women, newcomers, and non-residents of La Tuque were more likely to express problems about participating in the community's life, and they were less likely to

acknowledge the overall leadership in their community. As these groups do not feel as welcome to take part in the community's activities as do others, they are likely not contributing their full potential to building social capital. On the positive side, they constitute a potential source of capital upon which the community might build. For example, Fortmann and Kusel (1990) have shown that newcomers have much to offer in terms of networking and organizational skills that can contribute to the empowerment of rural communities.

As for the geographic divide observed between residents and non-residents of La Tuque, it raises questions about the community's inclusiveness toward a minority that does not live within the city. It would be interesting to verify if the difference in attitude toward local leadership and social cohesion is an enduring one, and find out if this difference masks resentment of non-residents toward the city of La Tuque. These two elements could turn out to be important shortcomings hindering the citizens of different localities from joining forces to develop common objectives and projects.

#### 4.5.4 Forest sustainability and management

Although results show that a segment of the population expressed dissatisfaction with and concerns about forest management, this segment is not easily identifiable by its social or demographic characteristics, as concerns about forest issues appeared to be spread across the population. However, there were important differences in opinion according to place of residence. It is somewhat perplexing to find that people who live closer to the forests are more critical of forest management and its sustainability. It might be interesting to document the motives behind people's assessment of forest sustainability and verify whether they are associated with different types of use, or with frequency and duration of trips to the forest.

The level of concern expressed about forest sustainability may also have other repercussions for the future of the community. As forest resources are key to the community's economic base, the lack of confidence in forest sustainability may impact on how residents envisage the future. Do residents who express a low confidence in forest

sustainability perceive this as such a threat that they may look elsewhere to ensure their future or that of their children? This is an important question for the community to ponder; a more thorough investigation would help the community to understand the ramifications associated with this fear of running out of wood.

Such an investigation could also help identify the source of confusion surrounding which objective should guide forest management on public lands. Our results show that a good number of respondents agreed to prioritize timber production but, at the same time, suggested that all forest resources should be treated with equal importance. Further investigation could confirm whether the confusion arose from the wording of the questions, or if it reflects residents' understanding of this issue. If the second is the case, it points to a need to fill a knowledge gap that is likely to hinder all discussions on forest management of public lands.

#### 4.6 CONCLUSION

The purpose of this research was to assess the attitudes of residents in a forest-based community regarding key issues challenging community capacity, and to explore the existence of relationships between these attitudes and respondents' sociodemographic characteristics. By covering issues related to all components of community capacity, this study provided a broad assessment from the residents' perspective and enabled us to verify that the responses of various groups differed according to the issue being addressed. For example, long-term residents were fairly sensitive to issues related to tourism but far less so to issues related to employment; people with low incomes were sensitive to both sets of issues. Although this assessment points out the existence of different perspectives on each issue, it does not provide enough detail to make an in-depth analysis of the causes of these differences. Nevertheless, it does give the community a starting point to improve its community capacity and suggests avenues for further research to help understand conflicting perspectives or problems faced by specific groups in participating in the development of social or economic activities in their community.

Also, as this study relies on a single case study, only a limited generalization of results is possible. It would be useful to conduct similar studies in other communities to verify to

what extent their situation resembles that observed in the Haut-St.-Maurice. One avenue for such studies would be to look at forest communities that also rely on large forest product mills with unionized workers, or to look at a broader spectrum of forest communities, studying those that rely on tourism, subsistence, forest harvesting, and management activities or on smaller forest products mills. Such studies would provide a larger range of observations that would be useful to examine the challenges faced by forest-based communities in terms of community capacity and see how similar they are. Also, the patterns of attitudes observed in these various communities could be compared to see if the concerns expressed by certain groups toward community issues are alike, or if they are associated with the type of forest activities taking place in these communities. This would provide new insight into the interrelation between community capacity and forest dependency.

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## 5. GENERAL CONCLUSIONS

The preceding chapters brought together elements that document significant factors affecting community capacity in the Haut-St.-Maurice. The presentation of the different frameworks of analysis shows how the concept of community capacity enriches the assessment of forest-based community by extending the scope of interest beyond the traditional economical focus, and offering a perspective that considers both the social and environmental contexts. The assessment of infrastructure, natural resources, and social and human capital results in a more comprehensive understanding of the relationship between humans and the forest environment they inhabit.

The historical perspective reveals the richness and complexity of the relationship that has developed over the years between the community and the local forests. The effects of forest dependency were found to affect the overall quality of life of residents. It appears that throughout the life of the community each element that contributes to community capacity has been somewhat influenced by the links that bind the community and the forest. In the early days of the Haut-St.-Maurice, the actors involved in wood transformation and forest management had a strong influence in shaping the development of the young community. Although the relationship between these actors and the community has evolved over time, vestiges of this influence have constrained community empowerment. The community has had some success developing its social capital and infrastructure, but our research shows that human capital development is still influenced by the predominance of the forest industry. The structure of the local employment market, and the values associated with forestry jobs, contribute to discourage the diversification of technical skills and the emergence of local entrepreneurs.

This study also sheds light on the impact that institutional arrangements regarding public lands have had on the capacity of the community to tap into these natural resources to adapt to changes. The land tenure system that was enforced in Quebec from the settlement of the community up to the 1970s, while facilitating industrial development in remote places such as the Haut-St.-Maurice, left the communities powerless to decide what activities and practices took place on surrounding public lands. The balance of power was

placed in the hands of forest industry and government managers, who developed a professional capacity to address forest management issues. Only recently has forest legislation opened the door to community involvement in forest management through the public participation process. However, changes in land tenure remain modest and it seems difficult to modify the institutional arrangements between government and the forest industry to allow communities to be equal partners in deciding how public forests should be used. For the moment, communities seem at a disadvantage because they have not developed the institutional capacity to deal with forest issues and are dependent on forest industry and government to provide them with information and expertise.

Another interesting facet of this study is how it points out the importance of looking beyond the mere existence of an element to assess the actual quality of the element and get an idea of its potential to contribute to community capacity in the future. For example, although the Haut-St.-Maurice has always had a paper mill, outdated technology sometimes compromised its chances of survival in the competitive wood-products market. Thus, this weakness in infrastructure should be included in capacity assessment to reflect the fact that, although the mill contributes to the economic base of the community, the state of the infrastructure may jeopardize its contribution if no improvements are made.

The survey documented quantitative aspects of community capacity by providing information on issues related to community capacity such as the employment situation, local leadership, or the state of forest resources. It also served to document attitudinal differences within the community and identify groups that are more responsive to issues such as tourism development or integration to the community. The hurdles faced by these groups are likely to impair the contribution they make to community capacity. This raises the issue of equity and emphasizes the need to look at distribution of costs and benefits within forest-dependent communities. It points out inequities that could be addressed in order to improve community capacity.

Even though case studies are quite limited in terms of how far results can be generalized, the study conducted in the Haut-St.-Maurice provides the various actors with interesting insights of practical implication. At the local level, the community can use the description of the evolution of community capacity to identify areas of weakness that can be addressed

to build up this capacity. It can also take steps to improve the participation of groups that are lagging in terms of their contribution to community capacity. For local forest managers and forest industries, two potential avenues are emerging. First, they can take steps to counterbalance the negative effects their presence has on development of such elements as human capital. For example, they could set a minimal level of educational attainment for all new employees and support educational initiatives in the community. Second, they can play a key role in opening discussions about forest management practices and their long-term sustainability. In Quebec, as well as in other parts of Canada, this is likely to be a sensitive and emotional issue in future and it is unlikely that questions raised about forest management on public lands will simply go away. For industry, refusing to take a proactive approach in dealing with this issue may make recruiting workers more difficult, and diminish the influence they have over public lands management. Finally, for policy makers, the study points out the importance of extending their outlook beyond the economic aspect of forest dependency and adopting a global approach that integrates economic, social, and political aspects into policy design and programs dealing with forest-based communities. Policy makers also have a role to play in facilitating both experimentation of new tenure models (where communities have a greater say) and facilitating the development of community capacity to address forestry issues.

Finally, to overcome the limitations involved in using a single case study, this study should be replicated in other forest communities. A number of different avenues may be worth exploring. First, communities that are economically dependent on a large corporate forest product mill should be studied. Second, future research could compare this case study with that of a forest community that depends either on smaller mills, on forest-management activities, on forest-tourism activities, or on subsistence. It would be interesting to see if the development of community capacity in these communities follows a similar pattern to that observed in the Haut-St.-Maurice. It would also be interesting to verify whether similar issues affect community capacity, and whether the same groups in the community are reacting to these issues. Such information would provide a basis for comparison between different types of forest-based communities and allow for a more precise characterization of these communities. It would also provide an opportunity to improve our understanding of what effects different types of organizations using forest resources have on the communities where they are located. We would then see to what extent community

capacity is related to forest dependency in general or to the type of organization using this resource.

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**APPENDIX 1: TRANSLATED SURVEY QUESTIONNAIRE**



**This first section contains general questions regarding the Haut-St.-Maurice community. Choose the answer that most closely represents your own opinion.**

**1. How would you describe the Haut-St.-Maurice community: (choose one of the following):**

- ☐ Haut-St.-Maurice is a vibrant community with a bright future.  
☐ Haut-St.-Maurice is a stable community with good prospects for the future.  
☐ Haut-St.-Maurice is a community in a state of change with an uncertain future.  
☐ Haut-St.-Maurice is a community in decline and in need of sound planning in order to survive.  
☐ Haut-St.-Maurice is a dying community that has no prospects for a good future.

**2. This region has many local clubs and organizations that are active in diverse aspects of the community's life. We would like to know if during the last year, you were involved in the activities of one of these types of organizations: (please check the one(s) that apply)**

- ☐ Environmental group  
☐ Worker's unions or professional associations  
☐ Religious group  
☐ Economic development association  
☐ Outdoor recreation group  
☐ Groups providing service to youth  
☐ Indoor recreation group  
☐ Groups providing service to the needy  
☐ None  
☐ Other (specify) \_\_\_\_\_

**3. Tell us about your level of agreement with the following statements : (circle one number for each statement)**

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I don't know
Local government does a good job in addressing concerns of local residents.	5	4	3	2	1	DK
Local residents show solidarity and cooperation when dealing with community issues.	5	4	3	2	1	DK
Local government pays too much attention to the needs of tourism business.	5	4	3	2	1	DK
Local government pays too much attention to the needs of the forest industry.	5	4	3	2	1	DK
Local residents are willing to pay taxes to finance improvement of community facilities.	5	4	3	2	1	DK
Our community's leaders work as a team which results in a stronger local economy.	5	4	3	2	1	DK

Poverty has increased in the Haut-St.-Maurice over the last 10 years.	5	4	3	2	1	DK
Over the last 5 years, I have seen a renewal of leadership in the community.	5	4	3	2	1	DK
New residents in the Haut-St.-Maurice easily get involved in the community's activities.	5	4	3	2	1	DK
It is hard for local people to access a leadership position in the community.	5	4	3	2	1	DK
The Attikamekw (local native people) are important contributors to economic activities of the Haut-St.-Maurice region.	5	4	3	2	1	DK
I feel that I can personally influence how this community is developed.	5	4	3	2	1	DK
Local clubs and organizations have no problem to find volunteer help needed for their activities.	5	4	3	2	1	DK
The Haut-St.-Maurice community is a rather closed community where newcomers have trouble developing a sense of belonging.	5	4	3	2	1	DK

**4. In your opinion, which of the following statements best describes your community: (check one)**

- ☐ By and large, most of us in the community hold similar values and are usually in agreement.
- ☐ We are a community of diverse values, but we have learned to work out our differences.
- ☐ We are a very diverse community, and generally there is no real agreement among us.

**We would like to know your opinion about the leadership of different groups in your community. That is to say to what extent do you feel the presence of these groups has a driving force in the economic, social, political, or cultural development of your community.**

**5. Please indicate the level of leadership you think each of the following groups has in your community: (circle one number for each group)**

	Strong leadership	Moderate leadership	Neither	Limited leadership	No leadership
City hall	5	4	3	2	1
Regional government	5	4	3	2	1
Chamber of Commerce	5	4	3	2	1
School board	5	4	3	2	1
Native Band Council	5	4	3	2	1
CACHSM	5	4	3	2	1
SADC	5	4	3	2	1
CDHM	5	4	3	2	1

Other important leaders  
(specify) \_\_\_\_\_

5

4

3

2

1

6. A person who is thinking of moving to your community asks your opinion about the good and the bad aspects of living in the Haut-St.-Maurice. What would your answer be?

Positive Aspects

Negative Aspects

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7. Below are sets of opposing statements about your community's preparedness for the future. Place an "X" on one of the five spaces that most closely reflects your agreement about the two statements. The closer your mark is to a statement, the more you agree with this statement. Remember, you are not being judged on right or wrong answers; we only want your opinions.

Agree ← Neutral → Agree

In the future, this community will go through important changes.

— — — — —

In the future, this community will remain pretty much the same as it is now.

We have has serious discussions within the community about our future.

— — — — —

We have not had any discussions within the community about our future.

We have identified concrete actions to be taken in order to achieve our desired future.

— — — — —

We don't know what concrete actions should be taken to achieve our desired future.

8. We would like you to tell us the places you are more likely to go to: (circle one number for each activity)

	La Tuque	MRC	Trois-Rivieres	Montreal	Québec	Others (specify)
Attend a cultural event	1	2	3	4	5	6 _____
See a movie	1	2	3	4	5	6 _____
Visit friends or relatives	1	2	3	4	5	6 _____
Visit doctors	1	2	3	4	5	6 _____
See a dentist	1	2	3	4	5	6 _____
Buy furniture	1	2	3	4	5	6 _____
Buy clothing	1	2	3	4	5	6 _____
Buy a car	1	2	3	4	5	6 _____
Make a day trip in the forest	1	2	3	4	5	6 _____
See a lawyer	1	2	3	4	5	6 _____
Improve your education	1	2	3	4	5	6 _____

In this section, we would like to get your opinion on different questions related to the employment situation in the region.

9. Tell us your level of agreement with the following statements : (circle one number for each statement)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I don't know
Jobs related to forest harvesting provide wages that are high enough to maintain an acceptable lifestyle for this region.	5	4	3	2	1	DK
Jobs related to wood processing provide wages that are high enough to maintain an acceptable lifestyle for this region.	5	4	3	2	1	DK
Jobs related to tourism provide wages that are high enough to maintain an acceptable lifestyle for this region.	5	4	3	2	1	DK
I hope to start my business in this region and be my own boss.	5	4	3	2	1	DK
I think I will have to leave this community to find work.	5	4	3	2	1	DK
In this region, most of the workers are going to be unemployed a few times during their lives.	5	4	3	2	1	DK
I think that forest harvesting and wood processing will remain the most important employment sectors for our community.	5	4	3	2	1	DK
In our community, there are less career opportunities for women in the forest sector (harvesting and processing) than for men.	5	4	3	2	1	DK

10. Is there a range of career opportunities available locally for young people? (check)

NO \_\_\_ YES \_\_\_ If yes, name the ones that you consider as the best opportunities

\_\_\_\_\_

\_\_\_\_\_

11. Are-you currently working in forest harvesting or forest management?

YES \_\_\_\_\_ NO \_\_\_\_\_ → If no, would you be interested by getting a job in:  
(please check)

	Yes	No
Forest road construction	_____	_____
Forest harvesting	_____	_____
Transportation	_____	_____

Silvicultural activities  
(reforestation, thinning)

We would like to know your opinion about the effect of tourism on the Haut-St.-Maurice.

12. Tell us about your level of agreement with the following statements: (circle one number for each statement)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Tourism is an important industry for this community.	5	4	3	2	1
Tourism and the forest industry can be developed at the same time without major conflicts.	5	4	3	2	1
Tourists visiting the Haut-St.-Maurice are pretty much the same kind of people as those who live here.	5	4	3	2	1
The development of tourism will have a negative impact on our way of life.	5	4	3	2	1
Tourism has already had negative impacts on our community.	5	4	3	2	1
Outdoor trails (hiking, mountain bike, cross-country, snowmobile) should be improved to help support tourism.	5	4	3	2	1

13. Development of tourism might affect different aspects of your life in the Haut-St.-Maurice. Tell us how concerned you are about the effect of tourism on: (circle a number for each)

	Strong concerns	Moderate concerns	Neither	Few concerns	No concerns
The number of summer houses	5	4	3	2	1
The number of people at my favorite recreation sites (lakes, fishing, and hunting spots, trails, etc.)	5	4	3	2	1
The traffic on forest roads	5	4	3	2	1
The amount of litter in the woods	5	4	3	2	1
The amount of noise and unruly behavior during your recreational activities in the forest	5	4	3	2	1
The job opportunities	5	4	3	2	1
The outdoor activities available close by	5	4	3	2	1

**Managing forest resources (recreation, scenery, timber, water, wildlife) are important activities in the Haut-St.-Maurice. This section will let us know your opinion about those activities, the organizations involved and their role.**

- 14. In your opinion, which of the following statement best describes the overall condition of the Haut-St.-Maurice's forest: (check one)**

- \_\_\_\_\_ Present forest management is fine as it ensures the future of our forests.  
 \_\_\_\_\_ Additional management efforts are needed to ensure the future of our forests.  
 \_\_\_\_\_ Our forests are poorly managed and major changes are needed if we want to ensure their future.  
 \_\_\_\_\_ Forest management cannot restore our forests and prevent them from disappearing.

- 15. Please, indicate how important each of the following sources of information is to you in forming an opinion on forest management: (circle one number for each sources)**

	Level of importance			
	High	Moderate	Slight	None
Personal observations	4	3	2	1
Friends and relatives	4	3	2	1
Newspapers and magazines	4	3	2	1
Radio station	4	3	2	1
Television programs	4	3	2	1
Governmental information	4	3	2	1
Environmental groups information	4	3	2	1
Timber groups information	4	3	2	1
Other (specify): _____	4	3	2	1

- 16. Many groups directly influence or are involved with management of public lands. We would like to know the level of confidence you have concerning their capability to contribute to good forest management decisions. (circle one number for each )**

	Strong confidence	Moderate confidence	Uncertain	Limited confidence	No confidence
Local residents	5	4	3	2	1
Regional Government	5	4	3	2	1
Attikamekw	5	4	3	2	1
Forest industry	5	4	3	2	1
Tourism	5	4	3	2	1
Environmental groups	5	4	3	2	1
Scientists	5	4	3	2	1
Quebec Ministry of Natural Resources	5	4	3	2	1
Quebec Ministry of Environment and Wildlife	5	4	3	2	1

17. The following questions are related to different aspects of managing forest resources (water, wildlife, timber, landscape, recreation). Tell us how much you agree or disagree with the following: (circle one number for each statement)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I don't know
I am satisfied with the way the local forests are currently managed.	5	4	3	2	1	DK
In the Haut-St.-Maurice region, fishing and hunting levels are higher than what nature supplies in the long run.	5	4	3	2	1	DK
Current wood harvesting is set at levels that can be sustained on a long-term basis.	5	4	3	2	1	DK
Natural regeneration and planted trees will not grow fast enough to maintain regional wood processing activities.	5	4	3	2	1	DK
The forest environment is deteriorating because tourists and recreationists don't feel personally concerned about the resource's future.	5	4	3	2	1	DK
Management of public land should favor timber production over other forest resources.	5	4	3	2	1	DK
On public lands, managers should give the same importance to all forest resources.	5	4	3	2	1	DK
In general, I would say that government information about forest issues is clear and easy to understand.	5	4	3	2	1	DK

18. Forest management is a complex process in which many groups with different interests get involved. We want your opinion about the appropriate involvement for each group. (check all that apply OR write DK if you don't know).

**Indicate which organization(s) you think should be involved in the following activities:**

[illegible]

**19. We would like to know your opinion about forest road issues in the Haut-St.-Maurice region. Tell us about your level of agreement with the following statements: (circle one number for each statement)**

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I don't know
The forest road network is too large	5	4	3	2	1	DK
I feel safe when I am traveling on major forest roads.	5	4	3	2	1	DK
Road maintenance on the main forest roads is deficient.	5	4	3	2	1	DK
Benefits from having a road network that opens all the territory outweigh the negative impacts created.	5	4	3	2	1	DK
A permit system should be organized so that forest road users would finance road maintenance.	5	4	3	2	1	DK
Some of the existing forest roads should be closed.	5	4	3	2	1	DK

**In conclusion we would like to know a little more about your background to help us compare your answer with those of other people. Remember that all the answers will remain strictly confidential.**

**20. Are you:** \_\_\_\_\_ female \_\_\_\_\_ male

**21. Year of birth:** \_\_\_\_\_

**22. Which of the following ethnic or cultural group are you a member of?**

Amerindian _____	Francophone _____
Anglophone _____	Latino-American _____
Asiatic _____	Other (specify): _____

**23. How long have you lived in the Haut-St.-Maurice region?** \_\_\_\_\_ years

**24. Have you and your family lived in the following regions over the last 20 years? (check the one(s) that apply)**

_____ Basse-Mauricie	Other regions in Québec: (specify) _____
_____ Québec	Other regions in Canada: (specify) _____
_____ Montréal	Other country: (specify) _____
_____ Saguenay-Lac-St-Jean	



**25. Do you or any of your immediate family depend on the following industries for your livelihood (if retired did you depend on any of them?)**

☐ timber harvesting      ☐ wood processing      ☐ tourism or recreation  
☐ farming      ☐ hydro-electricity

**26. Are you:**

☐ employed full-time (at least 30 hrs/week)      ☐ retired  
☐ employed part-time (less than 30 hrs/week)      ☐ homemaker  
☐ unemployed      Other( specify) \_\_\_\_\_

**27. What is your highest level of education**

☐ some high school      ☐ some university  
☐ high school graduate      ☐ university graduate  
☐ some college      ☐ some graduate school  
☐ college graduate<sup>5</sup>      ☐ complete graduate degree

**28. What was your approximate family income from all sources in 1996:**

☐ less than 10,000\$      ☐ 20,000\$ to 29,999\$      ☐ 50,000\$ to 59,999\$  
☐ 10,000\$ to 14,999\$      ☐ 30,000\$ to 39,999\$      ☐ 60,000\$ to 69,999\$  
☐ 15,000\$ to 19,999\$      ☐ 40,000\$ to 49,999\$      ☐ over 70,000\$

*Thank you very much for participating in our survey!*  
*Please return this questionnaire in the stamped envelope provided.*

*We appreciate any other comments you'd like to make.*

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<sup>5</sup> In the Quebec school system, college and university are two distinct levels of education.