SUSTAINABLE DEVELOPMENT OF RURAL ABORIGINAL COMMUNITIES OF NORTHERN BRITISH COLUMBIA: A CASE STUDY OF THE TL'AZT'EN NATION

By

Bipasha Baruah

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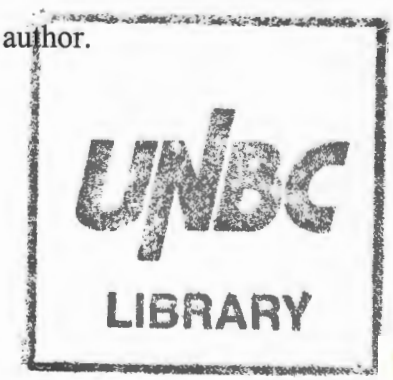

Abstract

The primary purpose of this study is to investigate and identify major factors that impede or facilitate the sustainable development of rural First Nations communities of northern British Columbia, through a case study of the Tl'azt'en Nation. By understanding the nature and magnitude of the threats and opportunities facing the community, this study attempted to develop a list of indicators that will enable the community to monitor progress toward the achievement of goals identified by the community. A variety of sources of information were used to develop the case study. Prominent among these is a series of five focus groups and seven semi-structured interviews held in the community as well as other sources of information such as government documents, community profiles, economic development plans, health assessment reports and annual general assembly meetings. Community consultation was the most integral aspect of the research. Focus group and interview participants were asked to identify community goals and relevant indicators. These indicators were then evaluated using an iterative process of elimination by applying established selection criteria to arrive at a final list of 45 indicators. Limitations and constraints associated with the use of community development indicators are discussed. The study indicates the need to develop reliable and valid monitoring tools for individual communities.

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Acknowledgments

This study could not have been completed without the cooperation and patience of the Tl'azt'enne who volunteered their time and knowledge during public information meetings, focus groups, interviews and feedback sessions. I am especially grateful to Umit Kiziltan for taking the time to accommodate the research in his hectic schedule.

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A final word of thanks to my friend, Joy, for suffering my company, albeit grudgingly, on my darkest days.

Preface

A number of factors guided my decision to base this thesis on the Tl'azt'en Nation (pronounced Klassten Nation). During my second semester as a graduate student at the University of Northern British Columbia, Dr. Leslie King informed us that she had been contacted by Umit Kiziltan, the Research and Development Officer of the Tl'azt'en Nation regarding the possibility of the university doing some collaborative work for the community. At about the same time, I was enrolled in a course taught by Dr. King entitled Cultural and Social Perspectives of Environmental Science along with another graduate student, Gina Layte. Umit identified areas in which the community would appreciate research work so that Gina and I could choose individual projects. Gina chose to document industrial activity in the area since the beginning of the twentieth century. My interest in community sustainability led me to choose to trace the history of a mercury mine that operated in the area during the second World War, and that had dumped mercury tailings into one of the lakes within the traditional territory of the Aboriginal community. I chose to document the physical, social, and economic impacts of the mercury poisoning that was discovered in Pinchi Lake during the mid-1970s. Subsequently, we made several trips to the community to attend discussions and to collect relevant information. What endeared the community to me the most was the interest and enthusiasm its members displayed for its well being. Elders, administrators, teachers, social workers, youth leaders, trappers, hunters, and fishers alike, expressed concern about the future and survival of the community. The fact that the community had progressed to Stage 4 of the Treaty Negotiations at that point in time may have whetted its citizens' appetites for information about development and empowerment. The Band Office was

consistently supportive, courteous and approving of our efforts to generate ideas and action in the community. When we finally presented the results of our study to the community, we were surprised and happy about the large number of people who cared about what we were doing. As well, I was incredibly impressed and challenged by the extremely sophisticated queries addressed to us by members of the community. It reinforced to us that the community was extremely astute and perceptive about the connections and ramifications between the social, ecological and economic dimensions of the natural and built environments that sustained them.

In the following semester, I succeeded in cajoling my group of four students including Gina to prepare an ethnography of the education system of the Tl'azt'en Nation as partial fulfilment of a course in environmental planning. My reasons for doing so were not entirely selfless because I was beginning to find the idea of developing my thesis around the community increasingly appealing. Therefore, I attempted to generate as much information about the community as possible in the event of my deciding to return to do more work in the area.

Introduction to Community Sustainability Auditing Project and Rationale for Study

The Community Sustainability Auditing Project undertaken by the Sustainable Communities initiative at the University of Victoria suited my interests because it was based on the premise that resource based communities are faced with many challenges that threaten their viability and survival. It acknowledges that the challenges may be economic, ecological, or social in nature and arise due to changes occurring in the community, region, country or world. It asserts that in order to be able to survive and sustain themselves through the

changes, communities needed information and understanding about both the nature of the challenges, and the resources that were available to meet them. The project has three major objectives. These are to:

1. Generate an understanding of the nature and magnitude of the threats and opportunities influencing the development of the community;

2. Develop a system of indicators that can identify and measure the threats and opportunities; and

3. Develop a method by which audits can be conducted periodically to assess how the community is doing in achieving its goals and/or managing its problems.

The major deliverable of the project is a workbook that will allow the community to assess itself and set objectives for the future. This directly supports the major objective of the project which is to develop a method by which communities can ascertain their prospects for the future and manage changes, if necessary.

These objectives meshed well with my interest in community development. Additionally, they lend themselves well to the Tl'azt'en Nation as one of the case study communities. The fact that we had already established direct contact and communication with the community also influenced my decision to choose it as the case study community.

Chapter One: Introduction

1.1 Introduction: Purpose of Study

The purpose of this study was to investigate and identify major factors that inhibit or promote sustainable development in a rural Aboriginal community in northern British Columbia. It developed a set of indicators that can be used to assess sustainability at the community level. It did this through a case study of the Carrier community of the Stuart Lake watershed, specifically the members of the Stuart-Trembleur Lake Band called the Tl'azt'en Nation.

In the past few decades, much research has been done to improve our understanding of important issues in indigenous communities across North America. As a result, researchers have identified several problems that remain unsolved in these communities such as unemployment, welfare dependency, alcohol and substance abuse, family disintegration, child neglect and abuse, housing shortages for low income families, and crime and juvenile delinquency (Boldt, 1993; Furniss, 1994; Mail, 1989; Shkilnyk, 1985; Zitzow, 1990). Although these problems shed some light on the issues faced by Aboriginal communities, they may not provide adequate insight into the concerns and needs of indigenous people. Additionally, studies of social pathologies themselves do not provide us with reliable indicators of the stresses that constitute threats, or have the potential to constitute threats, to the sustainable development of different Aboriginal communities.

In recent decades there has been a renaissance of traditional systems of natural resource management and traditional environmental knowledge in many countries around the

world. The concept of sustainable development, as defined during the 1980s, meshed well with Aboriginal concepts of equity and careful husbandry of natural resources.

Much effort has also been made to improve our understanding of the measurement and assessment of sustainable development. These efforts include state of the environment reporting, environmental and social impact analyses, economic impact analysis, and ecological "footprint" analysis (Carley, 1981; Environment Canada, 1991; Hammond *et al*, 1995; Wackernagel *et al*, 1993) . Most of this research suggests that sustainable development, or sustainability, must be achieved at the community and regional level where people live, work and interact with each other and with nature.

It is generally accepted that sustainable development can be measured by three broad categories of indicators, namely economic, environmental and social. Economic indicators of human well-being have been integrated into frameworks of sustainability in many different ways at the national and local levels. Although the social and environmental indicators movements also enjoyed considerable attention during the 1960s and 1970s, in many ways they have continued to be the poor relations of economic indicators. One reason for this is that unlike economic indicators, environmental and social indicators draw on varied interdisciplinary concepts that are often expressed in different ways and diverse units by people in different disciplines. Nevertheless, the challenge of developing reliable social and environmental indicators has been taken up by many governments, research institutes and community organizations around the world.

A comprehensive system of indicators that incorporates economic, social and environmental factors is desirable. Although it is theoretically possible to construct such a

system, in practice it is almost impossible to get agreement on the elements and appropriate evaluation of such a system (Michalos, 1997). Part of the problem centres on the meaning of sustainability. There are also many different views of the specific elements of sustainability that should be considered while developing goals for its achievement. Such diverse views of the concept, coupled with variability in the social, economic and environmental circumstances of different communities, also suggest that a set of indicators designed to measure progress in the achievement of one community's goals may not necessarily be appropriate for measuring progress in another community.

First Nations communities present all of the above mentioned challenges . However, it has been suggested that, because traditional subsistence lifestyles formed the very backbone of their culture and economy, the elements that preserve sustainability continue to be especially closely linked and interactive in these communities. For Aboriginal people, culture and environment form an integrated indivisible whole, and any part of the whole may transmit change in the social and natural environment throughout the system (Elias, 1991; Napoleon, 1992; Notzke, 1994; Stevenson, 1996).

1.2 Some Remarks on Community Selection

Apart from the willingness of the Tl'azt'en Nation to be involved in this research, there were several reasons for selecting it as the case study community. It is hoped that this study will not only provide the Tl'azt'en Nation with a practical tool in its development efforts, but also provide other northern communities with an understanding of how to develop indicators suited to their individual communities.

The Tl'azt'en Nation appears to have several characteristics in common with other First Nations in northern British Columbia. Like other northern communities, the Tl'azt'en Nation is a small community with a young and fast-growing population of approximately 1,200 people of whom 51 per cent are below the age of 19 (Tl'azt'en Nation, 1997). It possesses very modest infrastructure by national standards and is geographically distant from non-Aboriginal communities. Like most other northern Aboriginal communities, it is located in a relatively pristine natural environment, and the community possesses a "mixed economy" where incomes are derived from domestic production, wage labour, transfers and enterprise (Elias, 1991). All needs are not met through traditional domestic production activities like hunting, fishing and trapping. Cash incomes are earned through the sale of labour, commodities and enterprise. Currently, enterprise and sale of commodities are minor sources of income in Aboriginal communities, including the Tl'azt'en Nation. Wage labour is more important, although employment opportunities usually cannot keep up with the growth in the labour force. Other demographics such as average incomes, education levels, and unemployment rates in Tl'azt'en Nation are comparable with other northern communities (Hudson, 1983; Elias and Weinstein, 1992; Tl'azt'en Nation, 1998).

These and other similarities may make several aspects of the study relevant to other northern communities.

1.3 Objectives

The objectives of this study are as follows:

1. To identify major factors that may impact the sustainable development of rural Aboriginal communities in northern British Columbia through a case study of the Tl'azt'en Nation.

2. To understand the nature and magnitude of the threats and opportunities influencing the sustainable development of the community.

3. To identify indicators that measure impact on sustainability with the help of the above mentioned information.

4. To establish selection criteria that will facilitate the evaluation of selected indicators.

1.4 Methods

This study employed case study methodology to achieve its objectives. Focus groups and semi-structured interviews comprised the major methods of data collection and community consultation. Additionally, a range of documents such as community profiles, health assessment reports, and physical development plans as well as observations were used as supplementary sources of information.

1.5 Limitations of Study

There are certain limitations that are inherent in the methodology chosen for this study. Most of these are intrinsic to focus groups and interviews and include the following: biases created as a result of power differences among focus group participants; the requirement for trust and open communication; poor ability to produce statistical data; creation of researcher biases; and limited generalizability of study results. These limitations will be discussed in greater detail in Chapter Five.

Another limitation of the study is that it is time- and situation-specific. All systems of indicators need re-evaluation and updating as a community's sustainability goals evolve, as better data become available, and as there are advances in scientific knowledge concerning

the validity of selected indicators. Issues that were very prominent in the community at the time the research was being conducted may become less important as new issues emerge.

1.6 Organization of Study

The thesis is structured in the following manner. Chapter Two provides a description of the community, including information about its history, general geographical characteristics, demographics, services and institutions.

Chapter Three includes an extensive literature review that identifies and describes the major factors that impact the sustainable development of First Nations communities. The current situation in the Tl'azt'en Nation with regard to the issues identified by the literature is also discussed.

Chapter Four introduces the concept of indicators. It begins with a description of the major conceptual stages in the development of sustainability indicators. It includes the identification and definition of key elements of sustainability, the identification of target audience and the associated purpose for which indicators will be used, the choice of appropriate framework, and the establishment of indicator selection criteria. Indicator systems developed for Native communities are also discussed in this chapter.

Chapter Five incorporates a detailed description of how data were collected. It includes a discussion of focus groups, interviews, case studies, feedback mechanisms, and limitations of study.

Chapter Six reports the findings of the study. It also discusses and interprets the significance of issues identified as important to the well-being of the community. As well, it

compares the findings from the case study with those discovered through the literature review of key issues in Aboriginal communities across Canada.

Chapter Seven discusses recommendations based on the results of the study. Additionally, it provides an indication of the areas in which future research is required and desirable. It finally summarizes the study's findings and conclusions.

Chapter Two: Background Information and Description of Tl'azt'en Nation

2.1 Introduction

An attempt to develop an indicator framework for a community should be preceded by a general understanding of its geographic, demographic, economic and historical characteristics. This chapter will provide a general description of the Tl'azt'en Nation.

2.2 Description of the community

History: Pre- and Post-European Contact

The Tl'azt'enne is one of the many tribes that make up the Dakelh, which means "people who travel on the water." The Tl'azt'enne are known to non-Aboriginal people as the Carrier, a term which may refer to an old custom of packing a spouse's cremated remains for a year in a small pouch (Tl'azt'en Nation, 1997).

Oral history suggests that prior to colonization the Carrier of British Columbia's Central Interior were primarily hunters and fishers. Woodland caribou, deer, elk and black bear were hunted extensively throughout the sub-boreal forest for their meat and hides. Salmon was fished in the Skeena and Fraser rivers, and surplus was traded with the Sekani and the Cree. Hides, moccasins, dried meat and berries were exchanged with their neighbours for eulachon products and salmon. ?

Abundant food sources allowed the Carrier to live in extended family groups in semi-permanent dwellings called pit houses. Carrier children were taught to be flexible in their roles and skilful in a wide range of activities. Both men and women were trained to hunt, fish, and rear children, and people of either sex were eligible to be healers, shamans and political leaders.

The Carrier did differ from other hunter-gatherer societies in the area in one significant aspect. They adopted the balhats, or potlatch system, which is a hierarchical form of governance originally practised by the Northwest Coast Peoples. History suggests that the Carrier did so in order to be able to halt dissension and warfare in their territory. The balhats were organized around matrilineal exogamous clans and formed the core of society. All economic, social, judicial and spiritual activities revolved around the system. Disputes between clans, discipline for serious infractions, transfer of property as well as transfer of hereditary names and status within clans were all done through the balhats. All important life events were validated there. It was also where people repaid debts and favours and recognized heroic and humanitarian behaviour. The songs and dances of each of the clans helped to keep the oral history alive. Many elders believe that the Carrier would not have survived without the balhats (Tl'azt'en Nation, 1997).

The earliest documentation of European contact in the central interior of northern British Columbia goes back to the early nineteenth century. The process of Roman Catholic education and "civilization" of the First Nations was implemented by the Canadian government in 1842 but did not reach the Tl'azt'enne until 1892 (Tl'azt'en Nation, 1997). Like other Aboriginal children, many Tl'azt'enne were placed in boarding schools run by missionaries, the most prominent one being the residential school at Lejac. Residents recall being separated from family for periods that lasted from ten months to six years. There is evidence that the community was also very severely impacted by diseases such as small pox. As well, Tl'azt'enne oral history suggests that the community may have faced starvation in 1855 due to failure of the Fraser River salmon run.

In compliance with the Indian Act of 1876, Tl'azt'enne were placed on reserves in the early years of the twentieth century. The Indian Act concerned itself with three areas of legislation: namely, land, membership and local government. It sought to consolidate all previous Indian legislation, to define Indian status, and to appoint a Superintendent whose duties included general administrative powers over Indian affairs. In 1884, the Act was amended to outlaw ceremonies such as the Potlatch. Like other Aboriginal communities, the Tl'azt'enne suffered cultural and religious losses due to the amendment.

Other social changes were introduced to the community by the Church and government agencies. People were urged to live in single houses or immediate family units instead of joint families, and incentives were introduced for people to abandon traditional occupations in favour of wage employment.

In 1920, the Federal Government passed Bill 13, the British Columbia Indian Lands Settlement Act. This bill implemented the Mckenna-Mcbride recommendations, which, contrary to the provisions of the Indian Act, allowed reductions in the size of reserve lands. Tl'azt'enne reserves were reduced by about fifty percent (Tl'azt'en Nation, 1997).

In 1959, the Department of Indian and Northern Affairs (DIAND) amalgamated five bands in the Stuart and Trembleur Lake area. The five bands included Tache, Binche (Pinchi), Yekooche (Portage), Kuz Che (Grand Rapids) and Dzitlain'li (Middle River). The name of the band was changed to Tl'azt'en Nation in 1988, a change that reflected the tribal name, Tl'azt'enne. In 1994, Yekooche, located on the Nancut Reserve, separated from the Tl'azt'en Nation. Carrier separatism

The years between 1910 and the early 1970s witnessed the opening up of Tl'azt'en territory due to the construction of a logging road. People began to spend more time in Tache, as services like electricity and telephones became available, and it gradually became a permanent community instead of a seasonal residence. The Stuart Trembleur Lake Band Office was established in the early 1970s, and services that were previously provided by DIAND became locally accessible for the first time. The Balhats system was reinstituted, and Tl'azt'enne renewed the process of governing their political and economic affairs through an elected Chief and Council system.

Present Day Tl'azt'en Nation

The traditional territory of this community extended over a large area in northern British Columbia. Today the Tl'azt'en Nation is comprised of forty-nine registered Indian Reserve Lands, spread over approximately 6,650 square kilometres. It is located in north central British Columbia and is approximately two hundred and fifty kilometres northwest of Prince George and fifty kilometres northwest of Fort St. James. Most band members living on reserve reside on the Tache, Middle River and Pinchi reserves, which are accessible by gravel road (Please see Map on page 15).

The majority of the on-reserve population resides in Tache. According to the 1996 census conducted by the Ministry of Aboriginal Affairs, there are approximately 1,281 Tl'azt'enne, of whom about 641 members live on-reserve and 640 live off-reserve. The population figures for Tache, Binche and Middle River are 501, 110, and 30 respectively. Kuz Che is occupied seasonally. There are 150 dwellings on-reserve and approximately 50 new housing units are expected to be built over the next 5 years (Tl'azt'en Nation, 1997).

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The services available to the community include fire protection through a volunteer fire department which protects only the Tache reserve, police protection through an RCMP detachment in Fort St. James, postal services, medical services through the health and nursing station in Fort St. James, social services administered by the Band, and education provided through the Eugene Joseph School and the Tache Education Centre. A total of 378 Tl'azt'enne are enrolled in educational institutions in British Columbia and other parts of Canada. Of these, 70 attend provincial institutions, 26 are enrolled in private schools and another 282 attend the local education institutions on the reserve. The community is served by BC Hydro and BC Tel. Water supply is provided to Tache through the lake intake, reservoir and distribution system. Portage is served by one well, reservoir and distribution system. Pinchi also has access to a well and distribution system. Pinchi, Tache and Portage rely on community collection and disposal of sewage to a lagoon (Tl'azt'en Nation, 1990).

Major economic activities of the Tl'azt'en Nation include the operation of a logging company called Tanizul Timber, a forest products company called Teeslee, and a cabinet shop. These three enterprises, which are owned and run entirely by the Band, provide the majority of employment on the reserve. In addition, the community supports a number of other commercial enterprises such as a grocery store, laundromat, cottage lots, cement plant, 45 lakeshore lease lots, and arts and crafts. Other facilities available on-reserve include eight teacherages, a band office, community hall, and fire hall.

A large number of the band members also continue to carry out traditional economic activities such as trapping, hunting, and fishing for a major part of their livelihood.

Tl'azt'enne families hold "keyohs" or traplines, which have been passed down from one generation to the next.

At the present time, the Tl'azt'en Nation contributes approximately twenty million dollars annually to the economy of British Columbia's central interior from its formal and informal economic ventures (Tl'azt'en Nation, 1997).

2.3 Sustainability Issues

Traditional Carrier lifestyles and culture stress principles that are today identified as essential characteristics of sustainable development. These include traditional practices of community self-reliance, equity of governance, equity of access to resources needed for living, wise use of natural resources, and preservation of the quality of the natural environment. The dispossession and culture of dependence experienced by Aboriginal people centuries later appear to have their roots in the planned disruption of the elements that traditionally strengthened Aboriginal life such as family structures, ways of life, and social and political institutions.

In recent years, the Tl'azt'en Nation has struggled to achieve control over its economic, political, social and environmental circumstances through the negotiation of land claims. There has also been a renaissance of language and culture in the community and a general awareness and recognition among its members that the preservation and perpetuation of some of the elements of traditional Carrier culture may steer the community towards a sustainable future. Therefore, the greatest challenge for the community may lie in bringing together sound practices of the past with the constraints and realities of the present in a manner that allows the community to flourish in the most desirable manner.

2.4 Summary

The Tl'azt'enne is one of the tribes that make up the Dakelh or the Carrier. Prior to colonization, the Carrier were primarily hunters, fishers and gatherers who lived in extended family groups and occasionally traded surplus products with their Sekani and Cree neighbours. They were governed by a hierarchical form of government called the Balhats, or potlatch system around which all economic, social, judicial, and spiritual activities revolved. The early nineteenth century marks the earliest documentation of European contact with the Carrier. Tl'azt'enne were placed on reserves in the early years of the twentieth century. The amalgamation of five bands in the area in 1959 led to the creation of the Stuart-Trembleur Lake Band. It was renamed in 1988 as the Tl'azt'en Nation and is currently comprised of forty-nine registered Indian Reserve Lands spread over approximately 6,650 square kilometres. The community has access to all important services and amenities. Major economic activities include the operation of a logging company, a forest products company, and a cabinet shop. Many band members also continue to carry out traditional economic activities such as trapping, hunting, and fishing. The traditional way of life of the Carrier people stressed principles that are today widely accepted to be characteristic elements of sustainable development. The greatest challenge for Tl'azt'enne may lie in integrating traditional Carrier practices with the limitations of present circumstances to ensure a stable and sustainable future for the community.

Tl'azt'en Nation

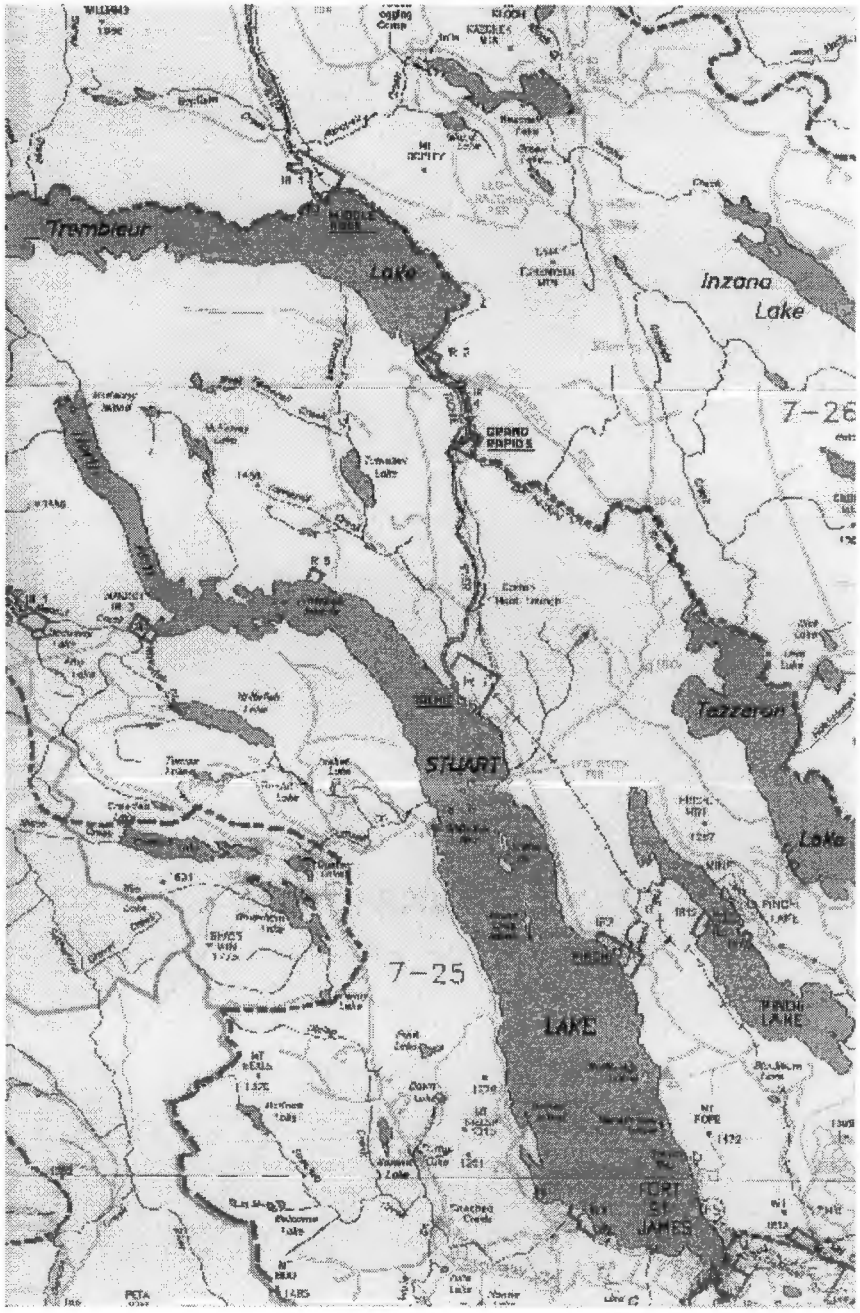
•Middle River

• Grand Rapids

• Tache

• Pinchi

• Fort St. James



Source: Fort St. James Forest District Recreation Map

Chapter Three: Literature Review

3.1 Introduction

This chapter reviews the literature related to the major issues and concerns that currently face First Nations communities across the country. Such a review not only provides an understanding of the issues themselves, but also allows for a comparison between the characteristics or trends illustrated by the literature and those generated from the study community. This can serve several purposes and is especially helpful in providing an indication of the generalizability or adaptability of the indicator framework that the study aims to develop, to other communities.

This chapter will identify and elaborate upon the major factors that may impact the sustainable development of Native communities. The current situation in the Tl'azt'en Nation with regard to the issues identified by the literature review will also be discussed.

3.2 Key Issues in Aboriginal Communities

A review of the literature suggests that the following five issues are key current concerns in Aboriginal communities in Canada: control of governance and political development; control of education; control of lands and resources; health and healing; and cultural development. Because they appear to be "common threads" that influence the development of First Nations communities across Canada, it is expected that they will provide some indication of the issues that may be relevant to the case study community. They may also provide the basis for generating relevant indicators for the case study community.

1. Control of Governance and Political Development

Most Aboriginal communities stress that they cannot grow sustainably unless they have control of their own futures. Most Aboriginal people speak of self-government as a vehicle to restore Native identities and cultures as well as to heal communities and revitalize traditional governing structures (Boldt, 1993; Notzke, 1994). The Royal Commission on Aboriginal Peoples heard similar views expressed by Native communities throughout Canada. Almost all communities link past government policies to current social, economic and political problems in their communities. Self-government has therefore been identified as a key factor that has the potential to promote sustainable development in Native communities.

Aboriginal people have made major gains in the past two decades towards achieving greater control over their affairs. Self government and a more involved position in Canadian political culture will help Aboriginal communities direct their own futures and maintain their own security (Boldt, 1993). The critical question, however, is where the balance of power can best be achieved on the scale of power sharing. A single point of balance is hard to imagine even in theory. Different Aboriginal communities have different histories, cultures, land bases, and different positions in the natural environment. Their political needs and ambitions differ too. In spite of this, the balance of power has been gradually moving in favour of Aboriginal people's interests. Many communities have undertaken successful grassroots initiatives, made excellent use of all available opportunities, and in some cases won legislated change.

Tl'azt'en Political Initiative

The Tl'azt'en Nation has also made significant advances in the area of treaty negotiations. The community is currently in Stage 4 of the Treaty Negotiation Process. As part of this stage the Carrier Sekani Tribal Council, the Ministry of Indian Affairs and Northern Development, and the Ministry of Aboriginal Affairs in British Columbia are negotiating an Agreement-In-Principle which will form the basis of the treaty. This is a critical stage because it requires the community to specifically describe its needs and wants in all areas of concern such as health, welfare programs, education, housing, economic development, traplines and the protection, conservation and ownership of natural resources.

2. Control of Education

Control over education has been a pressing priority of Aboriginal communities for decades. This is not surprising because the destiny of a people is intricately bound to the way its children are educated. Education also facilitates the transmission of culture from one generation to the next. Education shapes the language and pathways of thinking, the contours of character and values, the social skills and creative potential of the individual. It also determines the productive skills of a people (Haig-Brown, 1995; Royal Commission on Aboriginal Peoples, 1996).

For more than twenty five years, Aboriginal people have been articulating their goals for Aboriginal education. They want education to prepare them to participate fully in the economic life of their communities and in Canadian society. Part of the vision is to develop children and youth as Aboriginal citizens who are linguistically and culturally competent to assume the responsibilities of their nations (Nyce, 1990).

The following is a compendium of educational recommendations made by the Royal Commission on Aboriginal Peoples in 1996 :

- Aboriginal control of education;
- School courses in Aboriginal studies, including history, language and culture;
- Training and hiring of more Aboriginal teachers;
- Inclusion of Aboriginal parents, elders, and educators in the education of Aboriginal children;
- Special support programs for Aboriginal students, for example, counselling, substance abuse education, remedial education, and retention programs;
- Funding of support services for students in post-secondary studies;
- Aboriginal language instruction from pre-school to post-secondary education;
- Resolution of federal, provincial and territorial jurisdictional conflicts over responsibilities, or recognition by the federal government of its funding responsibility for education;
- Training Aboriginal adults for teaching, para-professional and administrative positions in education, and
- More emphasis on pre-school and kindergarten education.

Native communities stress that current education policies fail to realize their goals (Armstrong *et al*, 1990; Nyce, 1990). The majority of Aboriginal youth do not complete high school. They leave the school system not only without the requisite skills for employment, but also without the language and cultural knowledge of their people. The human cost of this failing is huge and manifests itself in hundreds of unsolved problems like economic

dependency, low self-esteem and self-worth, poor self-identity, substance and alcohol abuse, and a host of other social pathologies (Fry, 1970; Shkilnyk, 1985; Furniss, 1994; Moran, 1994). It is generally accepted by Aboriginal people across the country that higher levels of education among its members will greatly enhance the ability to steer the development of their communities.

Several Aboriginal communities have developed educational programs that meet their own needs. In the area of early childhood education, a number of communities across British Columbia have introduced initiatives to provide wholesome environments and programs. For example, the Spallumcheen First Nations community initiated the Splats'in Daycare Centre in 1991. The program was based upon a model of Aboriginal education from New Zealand that used an extended family model where elders and children participated in everyday activities (Royal Commission on Aboriginal Peoples, 1996). The environment in the Splats'in Daycare reflected the traditional rhythm of Shuswap life and social relationships, and children easily absorbed the Shuswap language due to exposure. Other successful community-controlled programs have effectively introduced children to culture, language and education. As well, they have attempted to promote health, nutrition, social support programs, and parental involvement. Several communities such as the Mohawk, Nisga'a, and Dene also developed sophisticated culturally sensitive curricula and had them provincially accredited.

Tl'azt'en Education

The Tl'azt'en Nation has made progress in the educational arena. Early childhood and elementary education is provided in the reserve through the Eugene Joseph School that was

established in 1963. The reserve also established the Tache Educational Centre, which is certified as a private post secondary institution. It assists in areas such as high school upgrading, high school equivalency diplomas, trade school, post secondary programs, and adult basic education. The drop-out rates of high school students pose a challenge to the Tl'azt'enne. An average of only 6 students are expected to complete high school every year (Finden, 1997). Another major concern is the large number of youth older than 19 who wish to return to high school but are disadvantaged by the lack of support services available to them. The community has battled with these problems for decades, but they are becoming especially relevant in the 1990s because of the impending possibility of self-government.

The Tl'azt'en Nation has also attempted to incorporate a cultural component into education by teaching Carrier language through the school and the educational centre. The school also occasionally holds sessions on traditional skills such as hide preparation and fish cleaning, which are taught by elders in the community. As well, in 1996 and 1997, a youth programme was sponsored jointly by the Assembly of First Nations, Human Resources Canada, and the Tl'azt'en Nation. It enlisted young people in the community to learn traditional skills and to perform community activities such as construction of a smokehouse on the reserve (Mattess, 1997).

There is a fairly clear consensus among Aboriginal people that control over policy, curriculum, and support services is necessary to create an educational experience that reinforces the positive identity of Aboriginal students and enables them to succeed academically. Cultural education is not seen as an alternative to academic and technical

education but rather as a necessary basis for self-esteem, which in turn enables children to learn and become contributors to their own communities and the larger society.

3. Control of Lands and Resources

Aboriginal title and the need for adequate land and resources to support Aboriginal populations have been a constant demand from coast to coast. Aboriginal laws, societies and cultures are tied to the land in fundamental ways and so are Aboriginal political systems, economies and spiritual beliefs. Major issues raised in this area relate to destruction of the environment and the effects of major resource development projects. Other areas of concern include the effects of industry on traditional activities like hunting, fishing, and trapping and the effects of wage employment on these forms of employment. The issue of natural resources also arises repeatedly in connection with the widespread recognition that Aboriginal communities need the revenues from an expanded land and resource base in order to sustain self-government. Most people believe that full self-government cannot be achieved without a land-based, resource-based economy that is controlled by, and for the benefit of, their communities (Boldt, 1993; Notzke, 1994).

The issue of control of lands and resources ties in directly with the issue of economic development of Native communities. For some communities, traditional economic activities such as hunting, fishing, trapping and gathering are still a principal means of living. Stresses on the traditional economy come from a variety of sources including the disruption of traplines by logging and building of hydrodams or lines, interference of animals and rivers by mining and forest clear-cutting, impact of the animal rights movement, which has drastically reduced the demand and price of furs, wildlife taken by sport hunters, and government

regulations and legislation about what can be hunted, trapped, or fished and where, when and how such activities can be undertaken (Shapcott, 1989).

Control over the land base is seen as a significant prerequisite in achieving economic development. The issue of control over lands and resources is strongly supported by Native communities because of the exceptionally high rates of unemployment in many communities. The Royal Commission on Aboriginal Peoples was told of unemployment rates that are many times the Canadian average, reaching 95 per cent in some communities. The Commission also heard that Aboriginal people find themselves restricted to entry level, poorly paid jobs despite their experience, and often their on-reserve experience is not recognized as a basis for advancement. In turn, the poverty resulting from lack of adequately paid employment is linked by Aboriginal people to the problems of overcrowded housing, the abuse of alcohol and drugs, and crime.

In the area of natural resource management, co-management and joint venture schemes between Aboriginal communities and governments or non-governmental organizations have provided several opportunities for profitable and sustainable development.

Co-management and Joint Venturing

Lands and resources are critical for the development plans of Aboriginal communities for several reasons. They provide supplies for domestic production, which has the potential to be the continuing base of tradition and capital (Sharma, 1998). Aboriginal people have devised strategies and implemented tactics for resource-based economic development. For renewable resources, co-management schemes have offered a way of allocating control of resources between competing uses. Where non-renewable resources are involved, joint

venture schemes have been examined as a possible control mechanism. Both mechanisms are designed to place a greater share of resources and benefits in the hands of Aboriginal people. The fundamental difference between the two is that co-management does not depend on ownership of the resource, while joint venturing demands acknowledgement of ownership. Co-management requires mutual recognition by all parties that each party has a legitimate stake in the resource and, therefore, a legitimate role in its management. Joint ventures, on the other hand, bring together owners of resources, capital and knowledge, and levels of participation depend on the value of what each co-venturer owns. Consequently, the focus of co-management is the orderly use of resources and the continued survival and health of the environment, while that of joint venturing is the orderly use of assets and the survival and health of the joint venture enterprise.

Pinkerton (1989) has identified co-management as a key element in new relationships between Aboriginal and non-Aboriginal institutions. In her analysis, Pinkerton sees seven main functions of resource co-management. These include the following: data gathering and analysis; making logistical harvesting decisions; making harvest allocation decisions; protecting the health of the resource; enforcement of regulations; resource enhancement and long-term planning; and broad policy decision making. The potential benefits of co-management are extensive and very impressive, especially since they represent a real transfer of decision-making power to Aboriginal people and are well within Canada's constitutional framework. Also, they are less controversial and confrontational than violent assertions of jurisdiction, and they offer greater opportunity to preserve local tradition and culture. Co-management additionally offers an opportunity to merge tradition and science. Several co-

management schemes set out by Aboriginal people have the merging of traditional and scientific knowledge as a prime objective (Sharma, 1998).

Co-management agreements are not without difficulties. Pinkerton explains that these agreements work best under specific conditions that may be difficult for Aboriginal communities to meet. One of the difficulties arises because agreements are required to be formal, legal and in force over a long term. This often places the technical aspect of agreements in the hands of the non-Aboriginal institutions, thereby diluting the democratic appeal of co-management. Additionally, although it is ideal that all parties share the costs of managing the agreement, most Aboriginal communities have difficulty funding even a part of the operations of a co-management agreement (Arctic Institute of North America *et al.*, 1996). Co-management agreements are known to work best where they are supported by well-organized communities and when they involve logically defined areas such as watersheds. Often the territorial scope of a co-management agreement is too restricted to be effective. Agreements are also best managed when the size of the government bureaucracy is small. For Aboriginal communities, the large size and administrative complexity of the Department of Indian and Northern Affairs alone can be a demotivating factor.

Tl'azt'en Initiatives for Land and Resource Management

Tl'azt'en Nation has explored the possibility of implementing partnerships for natural resource management. One prominent venture in this area is the University of Northern British Columbia's 14,000 hectare research forest established in 1997, which is managed jointly by the university and Tl'azt'en Nation. It is intended to be a self-supporting operating

forest that will provide economic opportunities for the local community and an outdoor laboratory for university researchers and students.

Many Tl'azt'enne are dependent on trapping, hunting and fishing for a large part of their livelihood. Therefore, the community is understandably concerned about issues such as land use patterns, traplines or 'keyohs', availability of wildlife, and the activities of logging and mining companies that operate in the territory. The two most visible enterprises undertaken by the Tl'azt'en Nation to exercise control over natural resources in the area are the establishment in 1981 of Tanizul Timber Limited, a logging company, and Teeslee, a forest products company. Both of these are operated and maintained by the Band and are the largest employment providers in the area. British Columbia is the only province that has made specific provisions for First Nations communities to gain access to Crown timber. The Forest Act provides for woodlot licenses of up to 400 hectares to persons or bands as defined by the Federal Indian Act. More than 15 First Nations have used this provision and combined forested portions of their reserves with licensed Crown lands to permit a reasonable allowable annual cut. In the small tenure situation, Tanizul Timber stands out as an exception. To obtain the license, forest management on some 2,500 hectares of Tl'azt'en Indian Reserve was combined with 49,000 hectares of Crown forest land (National Aboriginal Forestry Association, 1995).

In 1997, Tanizul Timber was under a considerable amount of stress due to extremely high stumpage rates imposed by the provincial government. The condition has been aggravated by the weakening of the lumber market in British Columbia. John Marchal, (1998) management forester for Tanizul Timber, argues that the situation where tenure

holders are forced to log at least 50 percent of the annual allowable cut while continuing to pay the "exorbitant and often unaffordable stumpage rates," imposes economic stress not only on the company, but also on the entire industry. The Teeslee Forest Products company, which is fed largely by Tanizul Timber, was forced to close down indefinitely in late January 1998. Marchal maintains that the situation is "politics and subsidy-driven" and hurtful to the community.

Other important resource management issues in the area include concern over the restriction of fishing in Pinchi Lake, one of the largest lakes in the area, following the discovery of very high levels of mercury in lake trout in the 1970s. The mercury mine owned by Cominco began its operations in the area in the 1940s, released a large volume of mercury tailings into Pinchi Lake and was subsequently shut down in the mid-1970s (Wheatley, 1979). The community is also acutely concerned about the fact that large volumes of timber are removed by industry from their traditional territory every year. This especially troubles the community since unemployment figures in the community continue to increase and more and more people seek social assistance with every passing year.

4. Health and Healing

Health, like education, is an area where institutions and services designed outside Aboriginal communities touch on the everyday lives of Aboriginal people. As a result of the revitalization of culture and traditions in recent years, attempts are being made to adapt health services to Aboriginal ways. Native people are looking to their traditional teachings for a holistic understanding of health that incorporates physical, mental, emotional and

spiritual well-being. However, they also recognize that immediate threats to personal and community health need to be addressed (Napoleon, 1992).

Poor health among Aboriginal people appears to be directly related to poverty and low morale. Fetal and infant death rates are considered to be important indicators of underlying risk factors. The social and economic factors of poor housing, lack of sewage disposal and potable water, and poor access to health services are also concerns in this area. As well, poor health of pregnant and lactating women, adolescent pregnancies, inadequate nutrition, lack of pre-natal care and adverse effects of drugs and alcohol are contributing factors to community ill-health. These factors indicate that poor health is related to social and economic circumstances. Substance abuse and addictions are also fairly widespread among young children and youth. These pathologies, combined with the HIV and AIDS, are seen by some as having the destructive potential of the epidemics that swept through Aboriginal communities in the past.

Although women share the health concerns common to all Aboriginal people, the issue that has been repeated and reinforced by women in communities across the country is family violence. Researchers see family violence as part of mental health and social issues that must be examined together. Aboriginal women in the North appear to be especially constrained due to a lack of local shelters or protective services and the barriers of distance and transportation preventing access to urban facilities.

Violence in Aboriginal communities is also not confined to assaults on women and children. It often takes the form of violence turned inward. Suicides, accidents by misadventure, alcohol and drugs are especially high among younger people (Fry, 1970; Furniss, 1994; Shkilnyk, 1985; Tower, 1989). Absence of facilities for the care of elders in

surroundings familiar to them, lack of access to medical care in remote communities, and the failure of health services to respond to past recommendations on the needs of Aboriginal people with disabilities have also been observed.

In recent years, attempts have been made to increase the involvement of Aboriginal people in professional and other decision-making roles in order to improve the range and effectiveness of public health services. Critics of the health care system, however, recommend that more is needed than simply increasing the volume of services available. They suggest that, because Aboriginal people are especially closely linked to nature and its elements, a holistic approach which encompasses emotional, mental, physical, spiritual, social, cultural and sexual aspects needs to be developed (Royal Commission on Aboriginal Peoples, 1996). It is generally agreed that it is best to adopt an approach to health care that has the community's maximum involvement in the identification of needs, and the development of preventative and remedial strategies.

Community Health Initiatives

In many areas, Aboriginal communities are taking charge of resolving their social problems. Some communities have instituted "healing circles," allowing people to publicly confront problems such as family violence and child abuse. A few communities have established more permanent "healing lodges," such as Poundmaker's Lodge, a treatment centre on the outskirts of Edmonton, which is run by the First Nations community (Eriksen, 1997).

Alcohol has been the bane of many Native communities, but determined action by some groups has put an end to abuse in some communities. One example is the Shuswap of Alkali Lake in British Columbia. In this community, a movement to sobriety was led by the

chief, Andy Chelsea, and his wife, Phyllis, after decades of apathy and child neglect caused by heavy drinking. The programme had its fair share of teething troubles but gradually attracted converts and in due course became highly successful. Bootleggers were charged under the Indian Act, and the government assistance cheques were replaced with vouchers for food and clothing so that the money could not be spent on alcohol. Within about ten years the band achieved 95 per cent sobriety, and people began to improve their economic lot. New houses were built, and cooperatives were organized for logging and agriculture. Attention was also turned to reviving their language and culture through their school programmes. Other bands have attempted to emulate their success, and a 1985 conference at Alkali Lake attracted more than a thousand people from communities as distant as Quebec and Nova Scotia. A film entitled *The Honour of All: The Alkali Lake Band Story,* based on the community's successful programme, was produced by the band in collaboration with the Four Worlds Development Project and has been distributed to many reserves across the country.

The Tl'azt'en Nation has also made concerted efforts to promote health and healthy lifestyles in the community. Most projects are geared towards reducing the disparity in health indicators between the Tl'azt'enne and the general Canadian society. The Tl'azt'en Health Society has developed several programmes to address the needs of specific groups in the community such as elders, pre- and post-natal women, children with congenital drug and alcohol effects. Most programmes are designed to prevent health-related problems in the community including those resulting from substance abuse, family violence and sexual abuse (Tl'azt'en Nation, 1995/1996).

5. Cultural Development

Many Indian communities are dismayed by the loss and threatened extinction of traditions, knowledge, language and skills. The loss of culture is appalling in itself, but there are several reasons why this loss is especially dismaying. First, Aboriginal ways are being lost at a time when little is known about how local traditions may be useful in contemporary society and conducive towards preserving ecological stability. Additionally, traditional ways of life are being overwhelmed with many social pathologies. If one looks at the entire picture, it is quite obvious that these are all dimensions of the same problem. Traditional Aboriginal lifestyles are complex and involve biological, economic and social variables that strongly impact each other. Loss of function, or absence, of any aspect of the system upsets the balance and disturbs the functioning of the entire system (Elias, 1991).

It is generally accepted that revitalization of culture and traditions could provide support to the sustainable development of Aboriginal communities. However, it is also well recognized that the road to cultural development is not without difficulties. There are many elements of mainstream Canadian society that may work to constrain and suppress Aboriginal cultures. Negative factors such as racism, as well as trends to assimilation and acculturation, tend to erode traditional ways, leaving Native communities vulnerable in Canadian political and economic culture (Shkilnyk, 1985; York, 1992). In addition to such external factors, there are factors within Native communities that obstruct cultural development. Breakdown of relations between generations, as well as breakdown of relations between genders, has been identified as a symptom and a cause of social pathologies (Mail, 1989; Tower, 1989). While these relationships collapse, so do the channels for communicating important traditional knowledge.

The quality of relationships between elder and younger generations has been identified as the key indicator of persistence of tradition. The underlying assumption is that, for tradition to be communicated between generations, they must have good and frequent relations. The Kaska Dena Council examined this matter when doing their land claims research (Elias, 1991). They discovered that young people who wanted to learn harvesting skills from their elders, for example, had plenty of opportunity to do so. What created greater concern was the apparent decline in the numbers of young people who wanted to learn traditional skills. Over time, Aboriginal communities have begun to involve themselves in many business enterprises. These initiatives have begun to entice young people away from the traplines and hunting camps and into industrial employment. Consequently, Aboriginal youth increasingly possess social and economic interests and objectives that challenge or compete with those of their parents.

The research conducted by the Kaska Dena Council also revealed major social pathologies in the younger generation reported as absent or insignificant by the elder generation during the latter's formative years (Elias, 1991). These include drug abuse, family abuse, suicide and running away. It appears that in the past young people learned their values and were disciplined within the extended family. In the recent past, adolescents tended to be immersed not in the family but in the institutions of larger society. Although all Aboriginal communities have not been severely hit by industrial change, parallel forms of economic and political change have led to social problems in other communities as well.

The change in kinship structures and relationships between younger and elder generations also results in different competing interests within the same generation in the

community. Scrimshaw (1985) sees contemporary Aboriginal communities as comprising four divisions of interest:

> I think of traditional Natives as those persons who adhere to the lifestyles and cultural values of the "old ways." For them, the demands and expectations of modern industrial society conflict with their traditional values such as family and community obligations.
>
> Transitional Natives maintain many of their traditional values and priorities, but at the same time, want to be part of modern society. They are torn between the demands of participating in the wage economy, on the one hand, and the expectations of their families, friends and communities on the other. As a result of this, transitional Natives often find it difficult to live comfortably with this dichotomy.
>
> Natives who function well in their traditional cultural environment and in the modern industrial society are what I refer to as bicultural. They have reconciled their traditional beliefs with those of the non-Native culture.
>
> In this model there is one other group of Natives. These are what I refer to as Assimilated Natives. Assimilated Natives are those Natives who have either lost or rejected their traditional culture and attempt to live entirely within the framework of modern society's values (39).

Division of interest appears to obstruct development of Aboriginal communities in two major ways. First, non-Aboriginal people and institutions have traditionally exploited division as a means to control Native communities. The government, for example, may shape policy and programs to serve the needs of those most aligned with its own ideas of the future. Additionally, division of interests may promote the division of effort and direction in communities.

The eradication of Aboriginal languages was one prong of the overall attempt to erase Aboriginal cultures. Everyday use of many Aboriginal languages diminished substantially with the rise of schooling in English and French. Inuktitut, Ojibwa, and Cree are considered by linguists to be the most robust languages today (Royal Commission on Aboriginal Peoples, 1996).

Tl'azt'en Community Effort

In the Tl'azt'en Nation, attempts have been made to keep the Carrier language alive. The Eugene Joseph School offers Carrier language as an alternative to French. The Tl'azt'en

Nation is also the proud owner of the first Dakelh Syllabics true type font to be developed (Tl'azt'en Nation, 1997). The efforts of the community led to the development of a software package that made the first system of writing the Dakelh language, developed in the late 1800s, accessible to everyone.

One of the major problems facing language education is the lack of recognition afforded by educators at all levels to elders and other fluent speakers to teach in the school system. Although Aboriginal language teacher certification programmes have been established by a number of universities, it is uncertain that they have increased elder access to the classroom. Another major barrier to language education is the fact that the continued vitality of Aboriginal education requires individual and family commitment to use the language in all forms of communication such as newsletters, radio, television, public events, ceremonies, and most importantly, in everyday life.

There are many other obstacles to cultural development that operate at the social rather than at the technical or legal levels. Such constraints lead to economic and political powerlessness, which are in themselves identified as causes of social pathologies.

3.3 Summary

This chapter focussed on the identification and discussion of the major issues in modern First Nations communities across Canada. Five areas were identified as significant to the sustainable development of Aboriginal communities: control of governance or political development geared towards self-determination; control of education directed towards enhancing opportunity and encompassing cultural systems of knowledge; greater control of lands and resources with a focus on increasing employment and self-sufficiency in Native

communities, incorporating traditional management practices, and exploring possibilities for co-management and joint venturing; health and healing with an emphasis on reducing disparities between Aboriginal communities and the general Canadian society, and developing culturally relevant holistic practices to deal with the gamut of physical, mental, social, economic and environmental factors that constitute health; cultural development with a focus on preserving and developing language skills as well as diverse cultural heritages.

The literature review was conducted with the dual purpose of learning more about the issues themselves and also generating the information base that would allow for a comparison between trends illustrated by the literature and those revealed by research conducted in the case study community. Upon completion of the literature review, it was expected that indicators related to political development, educational standards and curriculum, natural resource management, levels of employment and dependence, community health, language development, and cultural preservation and renaissance would be generated from the case study conducted in the Tl'azt'en Nation.

Chapter Four: Theoretical Basis of Study and Conceptual Framework

4.1 Introduction

Communities in different parts of the world have attempted to design conceptual frameworks for indicators that would enable them to monitor progress toward community goals (Alberta Round Table on Environment and Economy, 1994; Fraser Basin Management Program, 1995; Jacksonville Community Council, 1992; Local Government Management Board, 1993; Ontario Round Table on Environment and Economy, 1995). Alternately, some communities "borrow" systems of indicators from other communities and compare themselves to "model" communities in terms of comparative statistics and success or failure to move toward identified goals (Findlay, 1988; Wackernagel *et al*, 1993; York University, 1990).

Regardless of the manner in which frameworks of indicators are developed, they have been used for a variety of purposes. These include the following: predicting future social trends; providing visibility to social problems and inequities; facilitating long range planning and control over social problems; balancing assessment of social conditions against economic assessment; evaluating and prioritizing public policy and programmes; indicating future research areas; providing information for policymakers, implementors, and evaluators; improving understanding of social dynamics and strata; stimulating new policies and programmes; providing "barriers against irrevocable mistakes"; developing a "climate of continuous self-correction"; providing inspection opportunities for government decision making; and creating a pool of knowledge that all sectors of society can access (Michalos, 1980).

This chapter describes and discusses the theoretical concepts and ideas related to indicators and sustainable development that will influence the development of the study.

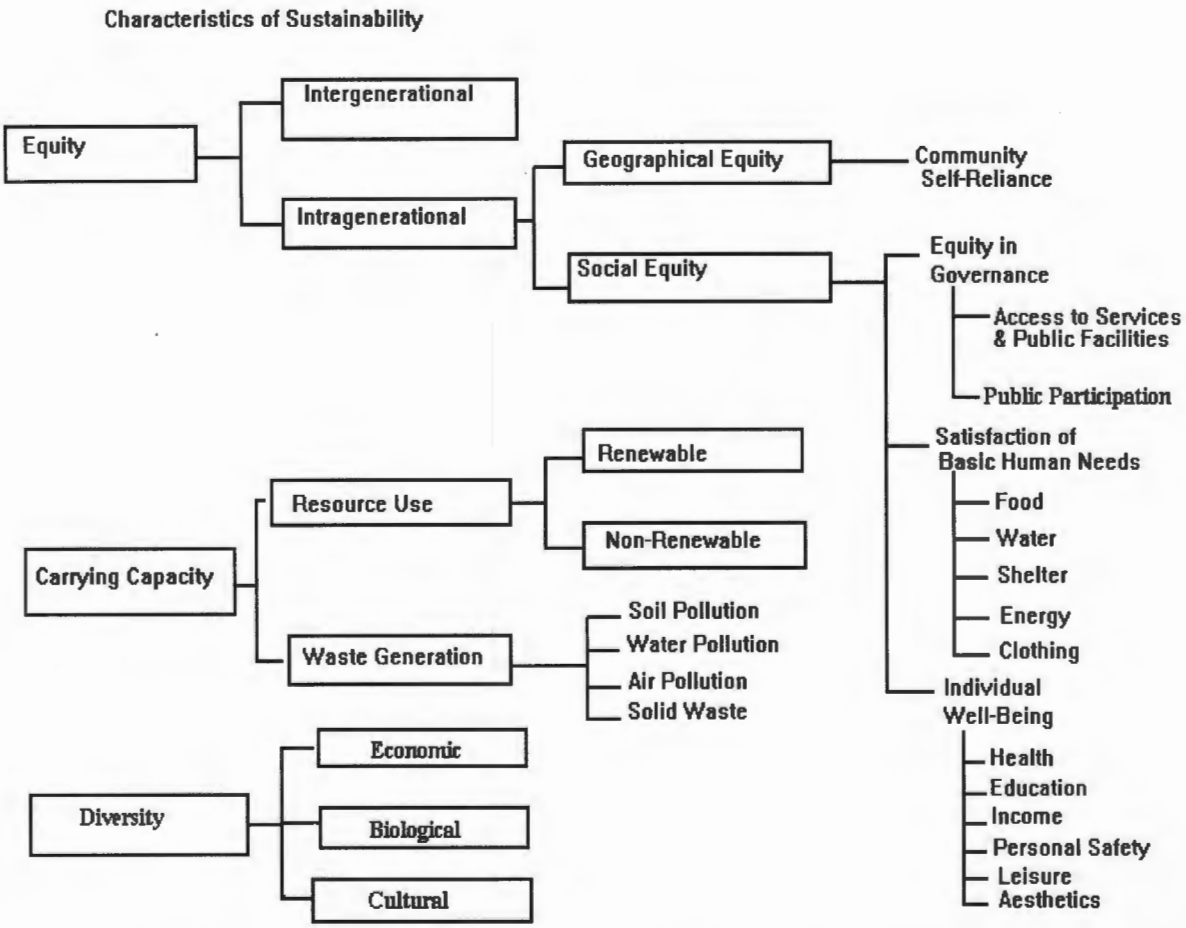
Identification of key elements of sustainable development

In order to be able to identify and develop indicators of sustainable development, it is important to define and discuss the elements or characteristics of sustainability that will provide a basis for the development of a framework.

The literature provides many definitions of sustainable development and related concepts. The term itself originated in the 1970s and was first promoted widely with the publication of the *World Conservation Strategy* in 1980. It was popularized even more by the Brundtland report, *Our Common Future* in 1987, and elaborated upon in major documents like *Caring for the Earth* (1991) and *Agenda 21* (1992). Two frequently used definitions in recent years are those in *Our Common Future* and in *Caring for the Earth*. The former document states that "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (43). *Caring for the Earth* defines sustainable development as "Improving the quality of human life while living within the carrying capacity of supporting ecosystems" (211). Numerous other definitions and discussions of the term provided by research institutes, governments, community organizations, academics, and planners also establish it as a vital and valid guiding principle for development practices of the future. Despite the popularity of the term in policy-making and policy research not only at the international levels but also at the national and local levels, the practical application of the concept remained somewhat nebulous. Efforts have been made in recent years to clarify the operational meaning of the

term. Most of these efforts have been met with questions about the measurement of the concept and the translation of the concept into action at different levels of implementation (IUCN, 1995). The World Conservation Union (IUCN) has explored ideas for practical application of sustainable development. These include facilitating its monitoring through report cards on global progress that factor in economic, environmental and social indicators, sustainability indexes such as the one developed for European cities, conservation strategies, environmental action plans and local Agenda 21s. The British Columbia Round Table on the Environment and Economy (1994) attempted to address the issue of operationalizing sustainable development by adapting the following eight principles previously developed by the World Conservation Union: limiting human impact on the living world to stay within its carrying capacity; preserving and protecting the environment through the conservation of life support systems, biological diversity and renewable resources; minimizing depletion of non-renewable resources; promoting long-term economic development through diversification and more efficient use of resources; meeting basic needs and aiming for a fair distribution of the benefits and costs of resource use and environmental protection; providing a system of proactive, participatory, long-term decision-making and governance; and promoting values that support sustainability through information and education.

Operational guidelines and frameworks developed or adopted by most other organizations, communities and governments also uphold the principles described above and highlight the connections between environment, economics and society. The figure on the following page attempts to incorporate the most widely accepted dimensions of the concept of sustainable development.



Source: Adapted from the United Kingdom's Local Government Management Board (1993)

This figure is perceived to be a useful starting point for communities attempting to develop their own philosophy of sustainable development and their specific sustainability goals.

For the purposes of the study, a framework adapted from the United Kingdom's Local Government Management Board was chosen over several others to depict the elements that comprise sustainability and the relationship between them for several reasons. First, it appears to interpret sustainability in a manner that is meaningful to the general public. It does this by addressing sustainability not only as a state of maintaining conditions necessary for survival, but also as a complex of activities and processes that challenge the ability of a

community to adapt to dynamic internal and external conditions. It includes issues like basic human needs, education, governance, and individual well-being that enables a community to not only maintain its health and identity but also to exercise control over its destiny. The inclusion of the concepts of inter-generational equity and geographical equity or the impacts of a community outside its recognized boundaries are other reasons for selecting this framework. Additionally, the major elements of equity, carrying capacity and diversity appeared to lend themselves well to the development of a reasonably comprehensive goal-based indicator framework for any human community since it addresses all the major concerns that people have about their own well-being and that of their community and natural environment. The concept of the goal-based framework and its relevance to this study will be discussed later in this chapter.

Definition of Terms

- The concept of intergenerational equity refers to equity among different generations and acknowledges that the needs of future generations are as important as the needs of the current generation.
- The concept of intra-generational equity refers to equity within a generation and has two components: social equity and geographical equity (Maclaren, 1996).
- Social equity refers to equity in the quality of lives of people. It takes into account basic human needs such as food, water, shelter, clothing and energy. In the context of sustainability, social equity also means the expansion of equity to include aspects such as more equitable distribution of income, elimination of discrimination, and other indexes that promote individual well-being namely health, education, personal

safety, leisure, etc. (Maclaren, 1996). Another important aspect of social equity is equity in governance. This includes concepts such as access to public facilities and services, self-determination, and access to governance through participation in community-based decision making.

- The term "geographical equity" was coined in 1995 by Haughton and Hunter. It draws attention to the undesirability of achieving either economic growth or a higher quality of life in one community at the expense of environmental degradation in another. Therefore, the concept suggests that sustainable communities should support sustainable development globally by minimizing contribution to global ecological, economic and social problems. The practical application of this concept would support increased capacity for self-reliance in individual communities by minimizing consumption of imported resources and also minimizing waste generation within the community as much as realistically possible.
- Carrying capacity is a concept that has created much controversy. It is classically defined as the number or weight of animals of a single or mixed population that can be supported permanently on a given area (Sharkey, 1970). It has also been defined in many other ways by ecologists and economists. For the purposes of this study, Rees' (1992) definition appears most appropriate. He defined it as "the maximum rate of resource consumption and waste discharge that can be sustained indefinitely in a given region without progressively impairing the functional integrity and productive activity of relevant ecosystems." It includes depletion rates of renewable as well as

non-renewable resources. It also includes volume of solid waste generated by a community and the amount and types of pollution of soil, water and air.

- The concept of diversity refers to both economic, cultural and biological aspects. Economic and cultural diversity of a community increases its ability to adapt to change and thereby contributes to sustainable development. The biological diversity of the area provides stability and adaptive ability to the ecosystems that support life.

Choice of appropriate framework

An implicit objective of this study is to encourage community ownership of the indicators by developing a set of indicators that are understood by the community and presented in such a manner that people who played a vital role in its development can see how their own activities and decisions can influence the trends illustrated by the indicator. Therefore, the major audience for the study is individual members of the community as well as local planners and policy makers. Individuals are encouraged to use the indicators to educate themselves about important sustainability trends and to assess their own actions in terms of how they can affect these trends.

The literature suggests that five general types of frameworks are most commonly used. These are as follows: domain-based frameworks (based on key dimensions of sustainability namely environment, economy and society), goal-based frameworks (based on sustainability goals such as meeting basic human needs, social well-being, economic prosperity, participation in governance, etc.), sectoral frameworks (based on sectoral responsibilities of local governments such as housing, welfare, recreation, transportation, economic development, etc.), causal frameworks (emphasizing causal relationships among

the indicators like human health, air quality and pollution reduction), and issue-based frameworks (based on popular current issues in the community such as crime and public safety, employment, industrial pollution, etc.). A sixth type of framework is called a combination framework because it uses two or more of the frameworks described above (Maclaren, 1996).

Each of these frameworks has its relative advantages. For the purpose of this study, a framework based on goals identified by the case study community was chosen. The advantage of a goal-based framework is that it reduces the number of indicators that need to be considered to those relating to specified sustainability goals. Additionally, it permits the evaluation of whether indicators are showing movement towards or away from sustainability. A goal-based framework appears to afford easy understandability and popular appeal. A goal-based framework also appears to be the most appropriate framework to encourage community ownership of the indicator system.

An issue-based framework was considered but rejected because, although it can be appealing, understandable and media-friendly, it may lack structure and comprehensiveness. In the context of the Tl'azt'en Nation, an issue-based framework may more heavily emphasize short-term, discrete concerns that arise in the community from time to time instead of broad-based long-term goals that may serve as tools to steer its future development. As well, issue-based frameworks may be unable to provide any explicit links to sustainability that other frameworks can provide.

A domain-based framework was rejected, although it is integrative and ensures effective coverage of the three dimensions of sustainability, because the categorization of

environment, economy and society appears too familiar and overdone to help people develop any fresh perspectives.

A sectoral framework is appropriate when the target audience is municipal governments because the sectors can be tied to individual government departments thereby making accountability for specific problems or positive results, easy to determine. The sectoral framework was rejected because the major audience for this study is not municipal departments and also because although it compartmentalizes indicators into specific areas of governmental responsibility, it does not potentially show linkages across different areas.

A causal framework has the distinct advantage of being able to suggest why certain indicators are rising or falling and also of suggesting whether or not policy interventions are having an impact. The main difficulty with this type of framework is that the distinction between economic or social stressors and economic or social conditions is not as apparent or as simple as those between human stressors (for eg. automobile use) and environmental conditions (air quality) that these frameworks were developed primarily for.

4.2 Assessment, Monitoring and Evaluation of Development

It is important to base the fundamental aspects of a study on sound ideas in theory. The following section will introduce the reader to the concept of indicators and their uses and role in the study.

The Concept of Indicators

While different communities may share similar approaches toward development, each community will have its own priorities among a set of common goals. The goals that a community most aspires to will depend on its priorities. Regardless of what the goal is, it is

ideal that the elements built into the goal be capable of measurement. Therefore, things must be discovered which, if measured, will show whether or not change is moving in the direction set in the community's priorities. Serious efforts have been made to construct relevant and usable tools for measuring the rate and direction of change toward community goals. These tools are collectively termed indicators.

Like sustainability, indicators have been defined in many different ways and from many different perspectives. Rossi and Gilmartin (1980) define indicators as "repeated measures of the same phenomena over time...the time series allowing the identification of long term trends, periodic change, and fluctuations in rates of change." Along the same lines, the Jacksonville Community Council (1992) describes indicators as "bits of information that reflect the status of larger systems. They are a way of seeing the big picture by looking at the smaller piece of it. They tell us which direction a system is going: up or down, forward or backward, getting better or worse or staying the same."

There are other definitions that acknowledge the ability of indicators to monitor and predict trends. Konkin (1991) defines an indicator as "a summary measure, a tool for monitoring change, which carries with it a degree of implied causality." This definition is important because it emphasizes linkages between different causes and effects.

Hodge (1994) offers another broad definition when he defines an indicator as "a measurable descriptor, quantitative or qualitative, of normative interest which facilitates assessment of the past, current, or future state or performance of system constituent parts, controls or feedback loops as well as the system as a whole." This definition acknowledges

that indicators are normative and can be used to measure progress toward or away from a desired state.

Michalos (1980) uses the term "social indicator" to designate statistics that are supposed to have significance for the quality of life, while a "social report" describes an organized set of social indicators. He points out that indicators can be objective such as statistics related to health, education, law enforcement, and economics. They can also be subjective when the indicator property involved is a personal feeling, attitude, preference, opinion, perception, judgement or belief.

One area of agreement among all definitions is that indicators represent events that are much more complex than the indicators themselves would suggest. Therefore, the term "indicator" should be taken literally in the sense that it only provides an indication of conditions or problems (Whorton and Morgan, 1975).

The ability to identify which indicator or set of indicators to use in a particular development context demands that the researcher or planner have a framework of understanding, or a theory, which allows him or her to firmly tie a particular indicator to the events the plan will help shape.

Definition of indicator selection criteria

A suitable framework is not the only requirement for developing a set of indicators. A set of selection criteria must also be defined to facilitate the process. Commonly used criteria for indicator selection can be found in the literature on environmental indicators, social indicators, urban indicators and sustainability indicators. Keeping in mind the major audience and the purpose of this study, the following criteria will be used to evaluate both the

indicators identified through the process of community consultation and those identified from the literature and deemed suitable for issues that were recognized as important but for which no indicators were identified.

1. Validity: the indicator should reflect something fundamental to the short-term or long-term economic, social or ecological health of the community. To qualify as a suitable indicator, there must be a high degree of correspondence between what is actually measured and what the researcher intends to measure. In other words, the indicator must be a clear, explicit, and generally accepted measure of the phenomenon to be measured. For example, the number of people who volunteer time for community activities is a clearer and more generally accepted measure of community pride, empowerment, and motivation than the number of houses in the community that have untended lawns. The latter indicator may not be a valid measure of community pride for several reasons including the fact that people who do take a lot of pride in their community and are actively involved in it, may just be too busy to tend their lawns!

2. Understandability: the indicator should be easily understood by members of the community, and there should be no debate about its meaning.

3. Measurability: the indicator should be statistically measurable or measurable in terms of presence or absence.

4. Data Availability: a practical form of data collection should either already exist or be possible.

5. Reliability: it should be possible to collect data for the same indicator in the same manner and under the same conditions from year to year so that comparisons will be valid.

6. Responsiveness: The indicator should be sensitive to an improvement or deterioration in the condition it targets.

7. Attractive to the media: The indicator should be appealing for use by the local media.

Limitations of Indicator Use

While discussing indicators and their applications, it is important to discuss what they can and cannot do. The major limitation of indicators is that they cannot cause change by themselves since they are merely measurements that reflect trends and patterns in community conditions. For indicators to be useful, they must not only be explicable within the context of community systems, but must also be compatible with respect to spatial and time frames. As an example, using monthly arrest data collected by the RCMP for its jurisdictional areas to explain drug use data collected annually by public health for public health areas may not meet the requirement that data share a common spatial resolution. This type of problem is quite common in community indicator analysis (Gruenwald *et al.*, 1997).

Another important consideration is that available community data are most often generated for reasons unrelated to the research needs of specific objectives set by different researchers. Therefore, they must not be taken at face value, but instead must be critically scrutinized since ill-considered use of indicators can lead to the appearance of change where none really exists or alternately, it may fail to detect change when it occurs. A common

example is the use of arrest records as indicators of criminal activity. While it is important not to confuse arrests with the underlying problem of crime, it is important to remember that arrest records are used by law enforcement agencies, among other things, to evaluate the performance of field officers. Therefore, while arrest records reflect the objective of law enforcement, which is to prevent criminal activity, they may not be the best indicators of the amount of actual criminal activity taking place during any period of time since this can be influenced by other factors such as the ability of criminals to conceal crime from police, the ability of police to detect crime, the discretionary decisions of police in making arrests, and funding and power resource allocations within police departments during that time. Similar problems may arise in the interpretation of other community indicators like hospital admissions, school drop-out rates, or sale of alcoholic beverages.

4.3 Examples of Indicator Systems Developed for Aboriginal Communities

Development of any kind implies change in people's lives. Therefore, for planning to be effective, communities must discover measures of change that are appropriate for their history, present circumstances, and future vision. Elias (1991) notes that there are few measuring tools tailored specifically for observing change in Aboriginal communities because most information produced in Canada is appropriate for mainstream Canadian communities. In 1988, a Task Force representing Indian, Metis, and Inuit organizations submitted a report to the Minister of State for Small Business and Tourism and mentioned the lack of well-grounded measures of change as a major impediment to development (Notzke, 1994). It stressed that without such measures it was difficult to determine the effectiveness of different strategies:

> Monitoring and evaluation are important aspects of any development project. Such projects are the basic instruments of intervention in development, and monitoring and evaluation are crucial to understanding the results of these interventions. Monitoring and evaluation are to do with measurement, judgement and analysis and are critical in terms of ensuring that any development is indeed moving towards and accomplishing its intended objectives (263).

The task of developing appropriate indicators for Aboriginal communities is especially daunting if useful information is difficult or costly to obtain and if the relationship between different phenomena and particular indicators is not clear. The following examples of indicators illustrate these constraints and the efforts made to overcome them.

In 1972, Wood attempted to devise a system of indicators that would allow accurate monitoring of change in northern Canada. Wood identified three uses for social indicators. These were to examine the performance of government programs in terms of whether they were meeting the programs' set objectives; to assess the impact of oil and gas exploration on local sociocultural systems; and to establish a tool that could be used by Aboriginal people to evaluate the effects of decisions made outside the North which had impacts on their communities. In order to assess commitment to Canadian national identity, Wood chose to measure elements of political participation such as voter turnout rates and participation in political action groups. He assumed that citizens committed to nationalism would show high levels of active involvement in their national institutions. Therefore, a measure of behaviour within those institutions is an indicator of commitment to Canadian national identity.

Wood also used the criminal conviction statistic as an indicator of quality of life. Wood based this indicator on his finding that over a succession of years the number of convictions in the North had been much higher than in the south. He elaborated:

> A number of interpretations can be placed on this data. It might be argued that residents of the Northwest territories are undergoing a period of adjustment as white and indigenous cultural values

> clash. It may be that the legal system is at fault; that Eskimos and Indians don't understand the law; that they lack proper counsel. It may be that northern judges and magistrates are harsher in the application of the law than are their southern counterparts. It may be that social and economic disadvantage have driven the indigenous Northerner into criminal activity (17).

If any of these interpretations is correct, then the criminal conviction statistic could be used as a social indicator. As an example, if it could be shown that the high rates of criminal convictions were the results of inadequacies in the judicial system, then development strategies could be aimed at establishing an Aboriginal judicial system. On the other hand, if the rate of criminal convictions was associated with economic circumstances, then the statistic could serve to indicate the effectiveness of economic development strategies. The effectiveness of either of these strategies would be indicated by a decline in the rate of criminal convictions.

Determining that a particular statistic or set of statistics adequately represents chains of causes and effect can be a challenging task. The limited data available for analytical purposes make it all the more difficult. Building systems of social indicators has progressed since attempts made during the 1960s and 1970s. The more advanced systems of indicators that exist today tend to rely on specially produced data.

Research commissioned by the Department of Indian Affairs and Northern Development (DIAND) provides an example of a relatively sophisticated system of social indicators built from specially produced data. A study was conducted in 1977 and 1984 to describe the quality of on-reserve housing (Elias, 1991). The resulting data were used to study the quality and availability of housing in terms of physical condition, the number of persons per room of housing, access to water and sewage disposal, source of heat, and other

objective criteria. The study also requested people to give their own evaluation of the housing they occupied. The department used the data to identify housing needs and to set regional targets for construction and renovation. Researchers used the data to evaluate the quality of life experienced by the Indian communities. The housing data provided a system of indicators of quality of life.

This system of indicators appears to be a more reliable measure of quality of life than those based solely on household incomes or levels of employment because of the incorporation of, and equal weight given to, the subjective component, namely the level of occupant satisfaction with housing. Income and employment are also often powerful measures of well-being, but simply tracking change in the level of employment or average income will not give decision makers adequate understanding of results. A large volume of research identifies at least 13 possibilities as domains of life that have an important impact on the quality of one's life. These include health, finances, job, family, friends, living partner, education, recreation, housing, transportation, government services, human-made and natural environments. The same studies also specifically mention unsatisfactory housing and associated elements as a major motivation for migration and alternately, satisfactory housing, neighbourhood and community as a major reason for not wanting to move (Kirschenbaum, 1983; Roseman, 1977; Shulman and Drass, 1979; Speare, 1974; Williams and McMillen, 1980; as cited by Michalos, 1980). Common sense assumptions also connect data about housing to quality of life. Most people appreciate the close link between the two. If people live in substandard, crowded, under serviced and uncomfortable housing, it appears likely

that they do not enjoy a high quality of life. Over time, an improvement or decline in any of these conditions signifies changing quality of life.

In spite of the logic of the above mentioned indicators, the researchers who conducted the study suggest that the results be considered tentative. They propose a program of research revolving around case studies of communities to test their approach more thoroughly. The recommended case studies would concentrate on community events and dynamics. They would also include a close examination of each community's economic base, education patterns, demographics, mobility patterns, political and administrative institutions, cultural context, lifestyles, health status and other major events such as land claims, natural catastrophes and so on. The case studies would more strongly confirm quality of housing as an indicator of quality of life. Although satisfaction with housing has been described as having strong predictive strength in defining satisfaction with quality of life (Michalos, 1998), it will be extremely difficult for a group of outside researchers to create a system of indicators by linking all the pieces. This handicap reinforces the importance of local production of information in combination with technical research methods.

An example of a more complex system of indicators is provided by the result of research conducted for DIAND by the faculty and students of the University of Saskatchewan (Bone and Green, 1984). In the early 1980s, construction of the Norman Wells Oilfield Expansion and Pipeline Project began in the Mackenzie valley. The geographers from the neighbouring university ran a program to monitor the effects of the project on the region. The program began before the constructive phase and continued after. The researchers expected the continuity of data to allow a close measure of ongoing change caused by the project. The

program studied and compared Aboriginal and non-Aboriginal communities and measured change over time. Most of the data were produced by two questionnaire-based field surveys. One survey targeted households and gathered detailed information about population characteristics, northern residency, labour force change, household incomes, local shopping patterns, trapping, consumption of food harvested from hunting and gathering, perceptions about development, as well as perceived positive and negative impacts. The other survey which targeted businesses, was much simpler and only required information about the general nature of the business and the number of employees.

The broad range of questions included in the surveys provided the potential for monitoring several dimensions of change. The researchers used the data to study trends in employment, income, migration patterns, attitudes toward development and use of renewable and non-renewable resources, etc.

This seemingly meticulous monitoring is also not without flaws when the major audience is the local community. First, the research strategy relies on relatively sophisticated statistical techniques and high levels of technical skill (Bone and Green, 1984). Also, it requires considerable rewriting of the results for common understanding. Both constraints have the potential to render the system of indicators unsuitable for the ordinary, day-to-day experience, making it more suitable for advisors and consultants rather than local decision makers. Also, when the approach is so technically demanding, often very few local observers and data producers can be used. This creates the dual disadvantage of increasing the cost of operation and eliminating the possibility of local people providing qualitative "anecdotal" data to compliment the quantitative data. Another major limitation of the study is the poorly

developed cultural component. Culture is measured almost exclusively by the measure of traditional food in people's diet, the value of which does not appear in the calculation of household income, and all forms of domestic production are ignored. Nevertheless, this study did have the potential to perceive important changes in Aboriginal communities because of the continued monitoring effort. However, it may have overlooked the possibility that Aboriginal people might experience negative effects of change which are not revealed by their research tools but are nonetheless present in their experiences.

Other more sensitive systems of indicators have been devised in the recent past such as the Mackenzie Environmental Monitoring Project undertaken by the working group of Indian, Metis, and Inuit thinkers in collaboration with consulting scientists. The objective of the project was to "identify and recommend those research and monitoring activities which are considered necessary for the responsible management of a phased development of the Mackenzie region hydrocarbons, through the administration of the relevant legislation administered by the funding agencies" (Notzke 1994). The strategy conceived of merging traditional and innovative knowledge with systems of understanding.

The working group met in several brainstorming sessions to elicit the contents of tradition and innovation. The group included Indian, Inuit and Metis who were very well informed about local knowledge as well as wildlife biologists, a geographer, an anthropologist, an economist, and a number of government administrators. The group decided to use qualitative data based mostly on personal experience and reinforced by well-known and accepted bodies of scholarly knowledge linked by theoretical explanations of behaviour patterns unique to the Mackenzie region. A general theoretical model of northern

household economies was constructed. This model perceived renewable resource harvesting (a major part of which is the harvest of country food) to be a powerful indicator of well-being. The group agreed that a precise measure of harvesting activities would reveal a northern Aboriginal community's general quality of life. The group also proposed a set of hypothesis about the nature of major relationships between traditional and industrial culture in the North. Each statement was scrutinised and discussed in the light of scientific information available from the consultants and practical knowledge available from Aboriginal participants.

The working group recommended four key indicators of the effects of wage employment on harvesting activities. This system perceived wage employment as the independent variable. The dependent variables were the levels of effort expended at harvesting, the level of accomplished harvesting, and the patterns of mutual aid, sharing and cooperation. Only the independent variable was deemed as being capable of being expressed in terms of available quantifiable data. The other variables required close study at the community level by observers well versed in the history and the culture of the people of the Mackenzie region.

The approach taken by the Mackenzie Environmental Monitoring Project is far more informative for people making decisions at the community level than are simple statistics. However, even these examples do not fully illustrate how intricate and involved the measuring of sustainability can become.

4.4 Summary

This chapter provides an introduction to the conceptual basis of indicator study. It provides a discussion of the major conceptual stages in the development of sustainability indicators. The key characteristics of sustainability are identified as intra- and inter-generational equity, carrying capacity, and biological and economic diversity. The case study community as well as local planners and administrators are identified as the major audience for the study. A goal-based framework that allows the community itself to identify the relevant goals is chosen for the study over other types of frameworks because of its conciseness, ability to monitor trends, easy understandability, and popular appeal. The indicator selection criteria for the study are established as being the following: validity, understandability, measurability, data availability, reliability, responsiveness and attractiveness to the media.

The second half of the chapter discusses the need for tools that can assess, monitor, and evaluate development. The absence of well-grounded measures of change appropriate for the history, present circumstances and future vision of First Nations communities is identified as a major impediment to their development by many Indian, Metis and Inuit organizations. Efforts have been made to develop usable tools called indicators that are capable of measuring the rate and direction of change toward community goals. Attempts have also been made to develop indicator systems specifically for Aboriginal communities. Examples include systems developed by Scott Wood in 1972 to monitor change in northern Canada, systems developed by DIAND in 1977 and 1984 from specially produced housing data, systems developed by DIAND and the University of Saskatchewan in the early 1980s during

the construction of the Norman Wells Oilfield Expansion and Pipeline Project, and systems developed by the Mackenzie Environmental Monitoring Project in the late 1980s for the management and development of the Mackenzie region hydrocarbons.

The examples of indicator systems developed for Aboriginal communities draw attention to the many ways in which available information or specially produced data can be used to perform a variety of functions such as evaluating needs, monitoring change and establishing targets or goals. The shortcomings of each of the systems seem to stress the importance of programmes of research that revolve around case studies incorporating the social, economic and environmental dynamics of individual communities for a more comprehensive coverage and understanding of community issues. They also draw attention to the importance of the community itself being centrally involved in producing local information and monitoring change over time. Despite their deficiencies, these attempts at developing indicator systems for Aboriginal communities shed more light on the types of issues that may be encountered in the case study of Tl'azt'en Nation. These include concerns about living conditions, criminal activity, local economic development, traditional occupations and subsistence lifestyles.

Chapter Five: Methods

5.1 Introduction

This chapter provides a description of how the case study data were collected. It also includes a description of feedback mechanisms that were built into the study and some of its limitations.

Community consultation is the most integral part of this study. Local knowledge and systems of understanding play a very important role in functions such as determining goals and assessing needs. Because it is the community that will have to live with the consequences of achieving or not achieving goals, it seems logical that its members should play the central role in defining the goals. Likewise, evaluation and assessment efforts should seek to emphasize local involvement even if exogenous sources and technical innovations help to produce and organize information.

There are several ways of discovering what people want for their futures. Self-evaluation and standard evaluation are the most usual ways. Self-evaluation involves asking people to assess themselves and their lives and then to decide what they want in the future. This approach was used by the Lethbridge Aboriginal Women's Group in its study of family violence. Members of violent families were assembled to discuss their existing circumstances, to identify the pathological aspects of those conditions, and then to describe favourable alternatives. These alternatives were then taken as goals for human resource development strategies (Elias, 1991).

Standard evaluation involves comparing some aspects of a people's life with some standard taken to represent a minimally adequate one or alternately with a standard that is

considered an ideal one. The Indian Association of Alberta explicitly rejected this approach in its child welfare needs assessment and argued that standards are often set in keeping with non-Aboriginal concepts of adequacy. They stressed that if standards are to be set, they must be created within the context of Aboriginal communities and refer explicitly to local circumstances (Elias, 1991).

Developing a framework of community goals and devising measures to monitor progress requires a deep knowledge of local social, cultural and environmental history. While standards can be constructed from generalized knowledge, it is important for them to be part of local culture because imposed standards will be alien to a greater or lesser extent. History has shown that Aboriginal people reject evaluation of their lives in terms of non-Aboriginal cultures. The standard against which a people's well-being may be measured is variable, and different communities will inevitably have different standards by which they assess themselves (Notzke, 1994). This underlines the importance of having the population itself decide on appropriate goals and the measures with which to reach them.

5.2 Data Collection

General Description of Methods

The first stage involved undertaking literature reviews to serve two major purposes. The first was to generate information from published studies about major current issues in Aboriginal communities. This provided a list of key contemporary issues that may impact the sustainable development of Native communities across Canada. The search was also extended to discover examples of indicator systems developed for Aboriginal systems with an emphasis on identifying the major strengths, weaknesses, opportunities and constraints

associated with them. Another search of the literature was conducted to document the theory behind the concept of sustainability as well as the concept of indicators including definitions, characteristics, audiences, and other aspects related to the conceptual development of the study.

The second stage involved planning focus groups and interviews in the community. This involved designing the relevant questions to address and identifying key individuals in the community to address questions to.

Several visits were made to the community, and discussions and presentations were held in order to enlist cooperation for the project as well as to inform the community about the nature of research that would be conducted in the community. The objectives of the study and the proposed research methods were discussed, and the Band Council offered its support for the successful completion of the project.

Community consultation was an integral part of the research. Focus groups and interviews offered an effective method of generating information and were conducted in the community at various stages. The major objective of community consultation was to gain an understanding of major issues in the community as well as to identify community goals and the constraints, challenges and opportunities that exist in their fulfilment. The participants were asked to identify sets of indicators that would enable the community to monitor progress toward communally identified goals.

Focus Groups

A series of five focus groups was conducted in the community. The groups were planned to provide an adequate representation of the community. The first group was

comprised of eight women, all of whom were enrolled in an early childhood programme at the Tache Educational Centre. The participants of the second group were seven young men employed at the Teeslee mill. The third group included eight individuals who comprise the community's education society. Two Tl'azt'enne elders were part of this group. The fourth focus group was formed by seven members of the community's health staff including social workers and nurses. The fifth group included seven youth from the community who were either part of the community's summer youth programme or employed at the local saw mill. Each group was asked to respond to the following questions:

1. What are the things you like most about the community you live in?

2. What are the things you like least about the community you live in?

3. What are the things that you would most like to see happen in your community in the next ten years?

4. What can the community do to achieve these goals?

or (as a clarifying question)

What opportunities exist in the community for the fulfilment of its goals?

5. What are the major barriers that the community faces or could face in the fulfilment of these goals?

6. What indicators can the group identify that would best measure progress toward the achievement of identified community goals?

or (as a clarifying question)

What kinds of information would enable the community to monitor success or failure in the achievement of these goals?

7. Is this information already available to the community?

Interviews

In addition to focus groups, seven semi-structured interviews were conducted with individuals who were unavailable to attend focus groups or were more amenable to personal interviews. Participants were asked to respond to the general focus group questions.

Four of the interviewees hold major decision making positions in the community in areas such as research and development, education, Band administration, natural resource management and saw mill management. In addition to the general questions, interviewees were also asked to provide specific information relevant to their professional duties in the community. The interviews also provided an excellent forum for discovering the validity of some of the legal, administrative and educational information provided by focus group participants. This was a very useful exercise because it was discovered that a number of ideas that were presented as facts in the focus groups were in fact just "wishful thinking". The best example to illustrate this is the mention made by several of the focus group participants that a by-law had been passed a few years ago declaring Tl'azt'en Nation a dry reserve meaning a reserve in which there is no bootlegging allowed and no alcohol can be purchased even for personal consumption. Separate interviews conducted with two community members who hold senior positions with the Band administration confirmed that although a BC Resolution had been passed a few years ago that it should be a dry reserve, it had never been implemented so there was no by-law of that nature in effect.

Additionally, because it was felt that the village at Middle River was not represented in the focus groups, three additional interviews were held in it to specifically discuss the

issues relevant to this isolated satellite community of the Tl'azt'en Nation. Two of the interviewees were elders who had spent their entire lives in the community.

Advantages and Disadvantages of Focus Groups and Interviews

While deciding to use focus groups as a major research method, it is important to be aware of their advantages, disadvantages, and appropriateness for a particular kind of research. There are several reasons why focus groups may be an especially desirable research method for the proposed study.

Focus groups create a situation where groups of peers can express their perspectives. Morgan and Krueger (1993) note that having the security of being among others who share many of their feelings and experiences provides participants with a basis for sharing their views. Thus, when conducted in a non-threatening and amiable environment, focus groups may be especially helpful for working with people who have historically had limited power and influence. However, it is important to protect against the risk associated with first empowering people to express their views and then ignoring them. It is the researcher's responsibility to acknowledge and show tolerance for a wide range of perspectives.

Additionally, focus groups offer a way to bridge the gap between the researchers and their target audiences. Researchers often discover that their language and logic are very different from the people that they are trying to serve. Because the interaction in focus groups can provide a clear view of how others think and talk, they are a powerful means of exposing researchers to the circumstances of their audiences.

Because focus groups are primarily based on asking open-ended questions, they offer the researchers the advantage of being able to examine human needs, motivations, and

actions to a degree more complex than is available with other methods such as telephone surveys. Additionally, information derived from focus groups can be combined with casual observations, secondary data and other sources to provide better understanding of complex issues.

In addition to allowing researchers to learn more about the range of opinions or experiences that exist, focus groups provide the opportunity to learn more about the degree of consensus on a topic.

Finally, focus groups can offer a research method that is respectful and not condescending to the target population. The friendly setting of focus groups is often the major advantage over other methods of obtaining information such as surveys where the participant may not trust the researcher's intentions. By creating and sustaining an atmosphere that promotes meaningful interaction, focus groups convey a humane sensitivity, a willingness to listen without being defensive, and a respect for opposing views that is beneficial, especially in emotionally charged environments (Morgan, 1993).

Employing focus groups to generate information about a community is not without disadvantages. The first disadvantage arises from the fact that, like most qualitative research, focus groups are based on trust and open communication. Therefore, to be successful it is as important for the target population to provide the researcher with truthful information as it is for the researcher to be respectful, tolerant and considerate of the target audience. In the context of this study, one of the major limitations may be that the researcher would only have access to information about those aspects of community life that the participants are willing to discuss in a focus group or interview situation. Issues that may have been equally

important, but were considered too personal or controversial to discuss are not mentioned in the study.

The second disadvantage stems from the fact that there is often a tendency in discussions for certain people to be especially influential, while the rest of the group tends to continually defer to him or her. Such a power differential can occur in focus groups even when care is taken to bring together people of equal social, financial, educational standing in the community. Sometimes this happens because a certain person is particularly loud or verbose. At other times, the imbalance is created due to other reasons such as age, gender, and social norms. Whatever the case, when this happens the opinions and ideas can get skewed in one direction, and it is up to the researcher to ensure that everyone in the group has adequate opportunity to air individual ideas.

Another disadvantage of focus groups is the fact that by themselves they are incapable of producing statistical data. Therefore, focus groups are not appropriate when statistical data are required. Because the major objectives of this thesis are descriptive rather than inferential, focus groups appear to be a suitable method of research.

There is one final serious disadvantage of using focus groups that needs to be addressed. This arises when the target group is unaware that the primary purpose of focus groups, especially in the academic arena, is to collect qualitative data to answer research questions. Unfortunately, the term "focus group" is often inappropriately applied to other purposes such as resolving conflict, building consensus, increasing communication, changing attitudes, and making decisions. This is particularly true when one is working with communities or organizations that have a very broad idea of what "research" is. To avoid

misconceptions about what the research seeks to do, it is very important for the researcher to be explicit that focus groups are primarily data collection devices for answering research questions. Morgan and Krueger (1993) support this view when they write "The best match between researchers' and participants' interests happens when they share the same goals: Providing useful information" (13).

In addition to focus groups, a series of interviews was also conducted in the community. The literature suggests that the use of semi-structured interviews can be appropriate and effective. The interaction between a researcher and the respondent in interviewing sessions not only enables the researcher to gain insight about the issues, but it also provides the opportunity to refine the research question and analysis as the research progresses (Li, 1981). Additionally, Jackson (1988) and Babbie (1995) suggest that the good rapport built up during the interview makes repeated interviews possible, if required. When combined with focus groups, interviews offer the advantage of allowing participants to discuss issues or air opinions that they may have been unwilling to share in the group situation.

Nevertheless, there are problems with using interviews. Semi-structured interviews are more complex and difficult to analyse because each interview is unique depending on the participant and the manner in which the conversation develops. This affords the researcher less control over the "steering" process. Like focus groups, interviews are often unquantifiable and statistical analysis can be quite restricted. As well, sometimes the manner in which questions are asked can create a subtle bias in the answer obtained (Babbie, 1995).

This can happen even when the researcher has no intention whatsoever of "leading the witness."

Observations

In addition to focus groups and interviews, a small amount of information about the community was generated by observing members of the community during the course of the research conducted in the Tl'azt'en Nation. The focus groups, interviews, information sessions as well as other formal and informal meetings organized with members of the community provided many opportunities for making personal observations that are described in certain places in the thesis.

Feedback

Several feedback sessions were organized with the community during the course of the research. They were facilitated by the community resource person who was employed on the Community Sustainability Auditing Project on the basis of her community membership and knowledge of local circumstances to assist in the research conducted in the Tl'azt'en Nation. With her help, a steering committee was formed within the community to provide advice and feedback on the research conducted in the community. Community members were selected to be part of the committee on the basis of their involvement in, and knowledge of, the community's administrative, political, social, and environmental problems. Care was taken to include individuals capable of providing information about the most prominent issues in the community

such as treaty negotiations, housing, drug and alcohol abuse, child welfare, health, natural resource management, and education.

Copies of the focus group summary were distributed to members of the steering committee. A meeting was organized to invite comments from the members. The major purpose of incorporating feedback sessions into the research design was to confirm the validity and credibility of information obtained from the focus groups. As well, it provided an opportunity for members to raise any questions or concerns about the focus group findings, in particular, and the research process, in general.

Case Study

A case study is defined by Yin (1984) as "an empirical enquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used." There are several reasons for designing this research as a case study. One of the major advantages, as evident from the definition, is that a case study offers the flexibility of allowing for the utilization of a variety of sources of information and techniques such as documents, interviews, surveys, focus groups, and personal observations. Yin (1984) writes "...the case study's unique strength is its ability to deal with a full variety of evidence - documents, artifacts, interviews, and observations." This advantage is especially relevant when one is conducting exploratory research that does not necessitate following stringent research methods. Case study literature supports that case study strategy may be used most effectively to explain, describe, or explore real life situations that have no clear, single set of outcomes (Patton, 1980; Cronback *et al.*, 1981; Guba and Lincoln, 1981; Yin, 1984). Additionally, the broad range of information that a case study brings together may facilitate the generation of hypotheses for future research that may be conducted in the community.

For the same reason, case study research appears to afford better scope for generalization of study results than any other research method. The wide range of information gathered in a case study also allows for frameworks, such as the one developed in this study, to be tested for appropriateness and validity.

The relatively small size of the Tl'azt'en Nation makes a case study especially feasible because it allows for a more thorough investigation and understanding of its issues, problems and opportunities . A case study would provide planners and researchers interested in conducting similar work with a more detailed conceptual framework and insight to develop theory as well as to generate ideas and action.

While discussing the advantages of employing case study methodology to conduct this research, it is important to acknowledge a major limitation. Although it is very desirable that the indicator framework developed as a result of this study be applicable to other northern communities, the extrapolation of results to other northern communities may be limited since different communities will present different sets of circumstances and local conditions. Nevertheless, it is expected that the case study will at the very least provide other communities interested in developing their own frameworks with the "brass tacks" of how to develop basic methodologies on which to base their studies. It may also provide useful background information that will enable other communities to develop certain hypotheses on which to base their research

5.3 Summary

The information required for the completion of the study was collected in several different ways. A literature review served the dual purpose of discovering important current

issues in Aboriginal communities and providing descriptions of indicator systems developed in the past. Community consultation was vital to the research. Focus groups and interviews were conducted to generate information about the community in addition to other sources such as government documents, community profiles, economic development plans, health assessment reports, and annual general assembly minutes. The focus groups and interviews served to provide an understanding of the major issues in the community, as well as to identify community goals and the constraints, challenges and opportunities that exist in fulfilling them. The participants were asked to identify sets of indicators that would enable the community to assess progress toward community goals.

Chapter Six: Results and Discussion

6.1 Introduction

This chapter presents the findings of the research. It describes how data collected for the study were analysed. It presents the results of the study, namely, the final list of 45 indicators developed for the Tl'azt'en Nation. This chapter also discusses and interprets the significance of issues identified as primary and secondary to the well-being of the community by the focus group and interview participants. Additionally, it compares the findings from the case study with those discovered through the literature review of key issues in Aboriginal communities across Canada. It attempts to provide insight or explanations about why the disparities between the findings of the case study and the literature may exist.

6.2 Data Analysis

Upon completion of the field research, all focus groups and interviews were transcribed using standard recording and transcribing equipment. The transcriptions were then used to prepare a summary of the focus group and interview proceedings. Because the questions addressed to the research participants were designed in a linear sequence that progressed from general issues about the community to the identification of goals, opportunities and indicators, it was logical to summarize the focus groups and interviews in the same sequence.

Subsequently, the summary was used to develop a table that documented the community's goals and a list of the possible indicators that could be used to monitor movement toward or away from the desired goal. At this point, a number of areas were discovered which were considered important by the community, but for which no indicators

had been identified. An example of this is the identification of the goal to preserve natural and historical heritage of the community. In such cases, possible indicators were identified by the researcher with the help of relevant literature. Case studies that involved the development and application of indicators were studied to provide suitable tentative indicators.

Table 1 documents goals and possible indicators that were identified by the community during focus groups and interviews. Table 2 incorporates possible indicators identified from literature for a goal that was identified through community consultation, but for which no indicators had been identified by the community. At this stage, the literature was reviewed for a set of evaluation criteria to facilitate the indicator selection process. Of the ten criteria identified, seven were deemed appropriate for the purposes of this study. These are validity, understandability, measurability, data availability, reliability, responsiveness, and attractiveness to the media. All indicators were evaluated through an iterative process of elimination by applying the selection criteria. The Sustainability Indicator Evaluation Matrix following Table 2 illustrates how the selection criteria are applied to the indicators identified for the community. Table 3 (page 79) presents the final list of indicators for the Tl'azt'en Nation after application of indicator evaluation criteria. The indicators that appear in the initial list of indicators but do not appear in the final list of indicators were eliminated because of their failure to meet one or more of the 4 mandatory criteria namely validity, measurability, reliability and responsiveness. All evaluation was done in consultation with the community steering committee.

Table 1: Initial List of Indicators for Tl'azt'en Nation

Long-Term Goals for Tl'azt'en Nation	Possible Indicators
To reduce alcohol and substance abuse in the community.	1. Percent of alcohol- and drug-related deaths in the community. 2. Percent of FAS, FAE children in the community. 3. Percent of babies born with FAS. 4. Percent of community members in detoxification programmes.
To raise levels of education in the community.	1. Percent of Tl'azt'enne high school graduates. 2. Number of Tl'azt'enne college graduates as a percent of high school graduates. 3. Number of Tl'azt'enne university graduates as a percent of high school graduates. 4. Percent of people completing Adult Basic Education courses from the Tache Educational Centre. 5. Percent of students completing skill development and university courses from the Tache Educational Centre. 6. Percent of people attending educational support groups and workshops.
To ensure adequate housing for all Tl'azt'enne.	1. Percent of households on the waiting list for housing. 2.Percent of housing units built per year. 3. Average number of people per housing unit. 4. Average household size. 5. Average age of houses.
To promote good health and healthier lifestyles in the community.	1. Average life expectancy at birth. 2. Percent of HIV positive people in the community. 3. Infant mortality rate. 4. Percent of teenage pregnancies. 5. Percent of people suffering from respiratory illnesses (asthma, pneumonia).

Table 1: Initial List of Indicators for Tl'azt'en Nation (contd.)

	6. Percent of people suffering from diabetes. 7. Percent of people suffering from outbreaks of water-borne diseases. 8. Attendance figures at pre and post-natal classes as a percent of pregnant women or new mothers.
To ensure adequate employment for all Tl'azt'enne.	1. Community unemployment rate. 2. Social assistance dependency rate. 3. Unemployment insurance dependency rate.
To promote community economic development and diversification.	1. Number of self-employed people in the community as percent of labour force. 2. Percent of entrepreneurial business ventures in the community. 3. Number of Band-owned businesses in the community as a percent of all businesses.
To enhance community capacity for participation and decision making.	1. Attendance figures at Annual General Assembly as percent of adults in community. 2. Percent attendance figures at community potlatches.
To preserve natural environment and historical heritage of community.	No indicators identified.
To promote preservation of culture and language.	1. Percent of people involved in traditional activities like trapping, hunting, fishing, berry picking, etc. 2. Percent of people who speak, read and write Carrier. 3. Percent of children in Carrier language classes. 4. Percent of eligible elders involved in teaching traditional skills. 5. Percent of youth learning traditional skills.
To increase Tl'azt'enne representation in local employment.	1. Percent of Tl'azt'enne employed by the Band, school, research and development, educational centre, health, finance, mills.

Table 1: Initial List of Indicators for Tl'azt'en Nation (contd.)

To reduce the incidence of crime and violence in the community.	1. Percent of community members serving prison sentences. 2. Percent of charges laid against community members for violent crimes (murder, attempted murder, domestic violence, child abuse, sexual abuse) 3. Rates of vandalism and break-and-enter. 4. Percent of juvenile offenders in the community.
To improve basic community infrastructure and access to public services and facilities.	1.Frequency of snow removal during winter. 2. Frequency of road ploughing during the year. 3. Percent of deaths caused by poor road conditions. 4. Percent of non-fatal accidents caused by poor road conditions. 5. Availability of car pool services to Fort St. James. 6. Availability of public transit to Fort St. James.
To improve community access to recreational and leisure services.	1. Number and types of recreational facilities available in the community. 2. Percent of people making use of recreational facilities. 3. Number of community events organized every year. 4. Percent attendance figures at community events. 5. Percent of community events discontinued due to poor attendance.
To generate a higher sense of community pride, empowerment and motivation.	1. Percent of people who volunteer time for community activities. 2. Percent of tended lawns in the community. 3. Percent of houses with garbage piled up outside.

Table 2: Indicators Identified from Literature

Goal	Possible Indicators (identified from literature)
To preserve the natural and historical heritage of the community.	1. Size and number of protected areas. 2. Ratio of successful forest regeneration to harvest rate. 3. Number of endangered species (plants and animals) in the area. 4. Number of vulnerable species (plants and animals) in the area. 5. Species health (births, survival rates, deformities, etc.) 6. Concentration of contaminants in water (mercury, DDT, etc.) 7. Concentration of contaminants in the tissues of birds, fish, wildlife and humans. 8. Rates of soil erosion. 9. Loss of wildlife habitats.

Indicator Evaluation Criteria
1 = Validity
2 = Understandability
3 = Measurability
4 = Data Availability
5 = Reliability
6 = Responsiveness
7 = Attractive to the media

✓ indicates that the indicator meets the criterion as defined.
? indicates that it is questionable whether the indicator meets the criterion as defined.

Validity is the most important factor in determining whether an indicator will be retained or discarded. If an indicator does not reflect something fundamental to the long-term economic, social or ecological health of the community, it will not be considered for the indicator framework, even if it meets the other criteria.

In addition to being valid, an indicator must also meet the criteria of measurability, reliability, and responsiveness to be part of the final framework of indicators.
The remaining three criteria, namely understandability, data availability, and attractiveness to the media, are desirable, but not mandatory because it is possible to address these limitations in several ways. For example, if the link between the indicator and the phenomenon it is developed to monitor is not explicitly clear, a simple rewriting of results can make it understandable.

Similarly, while it is desirable that the relevant data be readily accessible, data availability should not be a long-term constraint since ways of generating information may be developed over time. Exploring different sources and information sharing programmes between communities may make data more easily available and also reduce collection costs.

Sustainability Indicator Evaluation Matrix

Goals	Potential Indicators	General Selection Criteria						
		1	2	3	4	5	6	7
Reduction of alcohol and substance abuse	1. Percent of alcohol- and drug-related deaths in the community.	✓	✓	✓	✓	✓	✓	✓
	2. Percent of FAS, FAE children in the community.	✓	✓	?	?	✓	✓	✓
	3. Percent of babies born with FAS.	✓	✓	?	?	✓	✓	✓
	4.Percent of community members in detoxification programmes.	?	?	✓	✓	✓	?	?
Higher educational levels	1.Percent of Tl'azt'enne high school graduates.	✓	✓	✓	✓	✓	✓	✓
	2. Percent of Tl'azt'enne college graduates.	✓	✓	✓	✓	✓	✓	✓
	3. Percent of Tl'azt'enne university graduates.	✓	✓	✓	✓	✓	✓	✓
	4. Percent of people completing Adult Basic Education courses from the Tache Educational Centre.	✓	✓	✓	✓	✓	✓	?
	5. Percent of students completing skill development and university courses at the Tache Educational Centre.	✓	✓	✓	✓	✓	✓	?
	6. Percent of people attending educational support groups and workshops.	?	✓	✓	✓	?	?	?
Adequate housing	1. Percent of households on the waiting list for housing.	✓	✓	✓	✓	✓	✓	?
	2. Percent of housing units built per year.	✓	✓	✓	✓	✓	✓	?
	3. Average number of people per housing unit.	✓	✓	✓	?	✓	✓	?
	4. Average age of houses.	?	✓	✓	?	✓	?	?
	5. Average household size.	?	✓	✓	✓	✓	?	?
Promotion of better health	1. Average life expectancy at birth.	✓	✓	✓	✓	✓	✓	✓
	2. Percent of HIV positive people in the community.	✓	✓	✓	?	✓	✓	✓
	3. Infant mortality rate.	✓	✓	✓	✓	✓	✓	✓
	4. Percent of teenage pregnancies.	?	✓	✓	✓	✓	?	✓
	5. Percent of people suffering from respiratory illnesses (pneumonia, asthma, bronchitis)	✓	✓	?	?	?	✓	?
	6. Percent of people suffering from diabetes.	✓	✓	✓	✓	✓	✓	?
	7. Percent of people suffering from outbreaks of water-borne diseases.	✓	✓	?	?	?	✓	?
	8. Attendance figures at pre- and post-natal classes as percent of pregnant women or new mothers.	?	✓	✓	✓	✓	?	?

Goals	Potential Indicators	General Selection Criteria						
		1	2	3	4	5	6	7
Maximize employment	1. Community unemployment rate.	✓	✓	✓	✓	✓	✓	✓
	2. Social assistance dependency rate.	✓	✓	✓	✓	?	✓	✓
	3. Unemployment insurance dependency rate.	✓	✓	✓	✓	✓	✓	✓
Promotion of community economic growth and diversity.	1. Percent of self-employed people in the community.	✓	✓	✓	?	✓	✓	?
	2. Percent of entrepreneurial business ventures in the community.	✓	✓	✓	✓	✓	✓	?
	3. Percent of Band-owned businesses in the community as a percent of all businesses.	✓	✓	✓	✓	✓	✓	?
Enhance community capacity for participation and decision making.	1. Percent attendance figures at Annual General Assembly.	✓	✓	✓	✓	✓	✓	?
	2. Per cent attendance figures at community potlatches.	✓	✓	✓	?	?	✓	?
Preservation of natural environment and historical heritage	1. Size and number of protected areas.	✓	✓	✓	✓	✓	✓	?
	2. Ratio of successful forest regeneration to harvest rate.	✓	✓	✓	✓	✓	✓	?
	3. Number of endangered plant and animal species	✓	✓	✓	?	✓	✓	✓
	4. Number of vulnerable plant and animal species.	✓	?	?	?	✓	✓	?
	5. Species health (births, survival rates, deformities).	✓	✓	?	?	?	✓	✓
	6. Concentration of contaminants in water (mercury, DDT, etc.)	✓	✓	✓	?	✓	✓	✓
	7. Concentration of contaminants in the tissues of birds, fish, wildlife and humans.	✓	✓	✓	?	✓	✓	✓
	8. Rates of soil erosion.	✓	✓	?	?	✓	✓	?
	9. Loss of wildlife habitats.	✓	✓	?	?	✓	✓	✓
Preservation of language and culture.	1.Percent of people involved in traditional activities like hunting, fishing, trapping, berry picking.	✓	✓	✓	?	✓	✓	?
	2. Percent of adults who speak, read and write Carrier.	✓	✓	✓	?	✓	✓	?
	3. Percent of children in Carrier language classes.	✓	✓	✓	✓	✓	✓	?
	4. Percent of eligible elders involved in teaching traditional skills.	✓	✓	✓	?	✓	✓	?
	5. Percent of youth learning traditional skills.	✓	✓	✓	?	✓	✓	?

Goals	Potential Indicators	General Selection Criteria						
		1	2	3	4	5	6	7
Increase community representation in employment	1. Number of Tl'azt'enne employed by the school, research and development, education centre, health, finance, administration, Tanizul, Teeslee, and the cabinet shop, as a percent of all employees.	✓	✓	✓	✓	✓	✓	?
Reduce incidence of crime and violence in the community.	1. Percent of community members serving prison sentences.	✓	✓	✓	✓	✓	✓	?
	2. Percent of charges laid against community members for violent crimes.	✓	✓	✓	✓	✓	✓	✓
	3. Percent of cases of vandalism and break-and-enter.	✓	✓	✓	✓	✓	✓	✓
	4. Percent of juvenile offenders in the community.	✓	✓	✓	✓	✓	✓	✓
Improve basic community infra-structure and access to public services and facilities.	1. Frequency of snow removal during the winter.	✓	✓	✓	✓	✓	✓	?
	2. Frequency of road plowing during the year.	✓	✓	✓	✓	✓	✓	?
	3. Percent of deaths caused by poor road conditions.	✓	✓	✓	✓	✓	✓	✓
	4. Percent of non-fatal road accidents caused by poor road conditions.	✓	✓	✓	?	✓	✓	?
	5. Availability of car pool services to Fort St. James.	✓	✓	✓	✓	✓	✓	?
	6. Availability of public transit to Fort St. James.	✓	✓	✓	✓	✓	✓	?
Improve community access to recreational and leisure services.	1. Number and types of recreational facilities available in the community.	✓	✓	✓	✓	✓	✓	?
	2. Percent of people making use of recreational facilities.	✓	✓	✓	?	✓	✓	?
	3. Number of community events organized every year.	?	✓	✓	✓	✓	✓	?
	4. Percent attendance figures at community events.	✓	✓	✓	?	✓	✓	?
	5. Percent of community events discontinued due to poor attendance.	✓	✓	✓	✓	✓	✓	?
Enhance community pride, empower-ment, and motivation.	1. Percent of people who volunteer time for community activities.	✓	✓	✓	✓	✓	✓	✓
	2.Percent of tended lawns in the community.	?	✓	?	?	?	✓	?
	3.Percent of houses with garbage piled up outside.	?	✓	?	?	?	✓	?

Table 3: Final List of Indicators for Tl'azt'en Nation

Long-Term Goals for Tl'azt'en Nation	Recommended Indicators
To reduce alcohol and substance abuse in the community.	1. Percent of alcohol- and drug-related deaths in the community.
To raise levels of education in the community.	1. Percent of Tl'azt'enne high school graduates. 2. Number of Tl'azt'enne college graduates as a percent of high school graduates. 3. Number of Tl'azt'enne university graduates as a percent of high school graduates. 4. Percent of people completing Adult Basic Education courses from the Tache Educational Centre. 5. Percent of students completing skill development and university courses from the Tache Educational Centre.
To ensure adequate housing for all Tl'azt'enne.	1. Percent of households on the waiting list for housing. 2. Number of housing units built per year. 3. Average number of people per housing unit.
To promote good health and healthier lifestyles in the community.	1. Average life expectancy at birth. 2. Percent of HIV positive people in the community. 3. Infant mortality rate. 4.Percent of people suffering from diabetes.
To ensure adequate employment for all Tl'azt'enne.	1. Community unemployment rate. 2. Unemployment insurance dependency rate.
To promote community economic development and diversification.	1. Percent of self-employed people in the community. 2. Percent of entrepreneurial business ventures in the community. 3. Number of Band-owned businesses in the community.

Table 3: Final List of Indicators for Tl'azt'en Nation (contd.)

To enhance community capacity for participation and decision making.	1. Attendance figures at Annual General Assembly as percent of adults in community.
To preserve natural environment and historical heritage of community.	1. Size and number of protected areas. 2. Ratio of successful forest regeneration to harvest rate. 3. Number of endangered species (plants and animals) in the area. 4. Concentration of contaminants in water (mercury, DDT, etc.) 5. Concentration of contaminants in the tissues of birds, fish, wildlife and humans.
To promote preservation of culture and language.	1. Percent of people involved in traditional activities like trapping, hunting, fishing, berry picking, etc. 2. Percent of people who speak, read and write Carrier. 3. Percent of children in Carrier language classes. 4. Percent of eligible elders involved in teaching traditional skills. 5. Percent of youth learning traditional skills.
To increase Tl'azt'enne representation in local employment.	1. Number of Tl'azt'enne employed by the school, research and development, educational centre, health, finance, administration, Tanizul, Teeslee, and the cabinet shop as a percent of total number of employees.
To reduce the incidence of crime and violence in the community.	1. Percent of community members serving prison sentences. 2. Percent of charges laid for violent crimes in the community (murder, domestic violence, child abuse, sexual abuse). 3. Percent of cases of vandalism and break-and-enter.

	4. Percent of juvenile offenders in the community.
To improve basic community infrastructure and access to public services and facilities.	1.Frequency of snow removal during winter. 2. Frequency of road plowing during the year. 3.Percent of deaths caused by poor road conditions. 4. Percent of non-fatal accidents caused by poor road conditions. 5. Availability of car pool services to Fort St. James. 6. Availability of public transit to Fort St. James.
To improve community access to recreational and leisure services.	1. Number and types of recreational facilities available in the community. 2. Percent of people making use of recreational facilities. 3. Percent attendance figures at community events. 4. Percent of community events discontinued due to poor attendance.
To generate a higher sense of community pride, empowerment and motivation.	1. Percent of people who volunteer time for community activities.

6.3 Final Round of Community Consultation

Following the application of the selection criteria to the indicators selected by the community and the generation of a list of 45 indicators, a meeting was held with the community steering committee. Committee members were requested to rank the 45 indicators as being of high-, medium-, or low-priority in the context of the Tl'azt'en Nation. Members were requested to use their perceptions of the issue as well as any specialized knowledge of the community to decide whether an issue, and therefore, the collection of information of the relevant indicator should be of high, medium, or low priority to the community. As well, members were requested to provide comments on the indicators and also to suggest other indicators that may better represent critical issues in the community.

This stage of consultation was incorporated into the study to explore the possibility of eliminating certain indicators from the final framework if they were perceived to be of low priority by more than 50 percent of the committee. However, no indicator was dropped from the final framework because there were none identified as being of low priority by more than 2 of the 8 people who ranked the indicators. Also, no additional comments or suggestions were offered by the committee about the indicator framework. Therefore, the list of 45 indicators generated after application of the selection criteria was accepted as the final framework of indicators for the Tl'azt'en Nation.

6.4 Discussion and Interpretation

The results of this study were derived primarily through community consultation in the case study community, the Tl'azt'en Nation. Therefore, they are primarily reflective of perspectives held by members of that community. Nevertheless, it was found that they

confirm the prominence of several issues identified by the literature review while simultaneously challenging the importance of other issues. The focus groups and interviews in Tl'azt'en Nation drew attention to the existence of some "core" issues that are of utmost importance to the community. This set of issues was perceived to be important enough to determine not only the community's general well-being, but also its basic prospects for long-term survival. A larger number of other issues were identified as being of importance to the future of the community, but not vital for its existence. It was generally felt that, while most issues discussed in the focus groups were very important to the sustainable development of the community, a large number of them were overshadowed by the pervasive and consuming nature of a few of the problems. The issues identified as primary are those that were raised and discussed in all focus groups and interviews regardless of the professional, academic or sociocultural backgrounds of the participants. The issues described as secondary are those that were raised intermittently by participants in several groups and interviews, but not consistently discussed in all sessions of consultation.

Primary Issues

Alcohol and Substance Abuse

The rampant and abusive use of alcohol in the community, along with the associated social, psychological, health and economic problems, was mentioned by all the groups that participated in the research as the issue of utmost priority. The misuse and overuse of prescription, as well as over-the-counter drugs, were also discussed at length. Participants expressed concern and distress about community elders indulging in these behaviours because of the influence it had on youth and children. One community health worker

mentioned that there were cases of children as young as eight years of age being addicted to various kinds of narcotic and prescription drugs.

Most participants agreed that these pathologies have worsened over the years. The industrial development in the area in the last couple of decades made better jobs available to community members. Larger disposable incomes may have made it possible for people to spend more resources on alcohol and drugs.

Opinion on solutions to control drug and alcohol abuse was varied. There were those who were convinced that a complete ban on alcohol in the community, namely being declared a "dry" reserve, was the only way to deal with the problem. There were others who believed that such enforcement would only create a new set of problems because it would force severely addicted people to come up with ways of illegally procuring alcohol or narcotics. They suggested that better educational and awareness programmes in the community would be more effective in dealing with the problem since ultimately it was entirely up to the individual to make the necessary change. This group was of the opinion that a 50% reduction in the number of alcoholics and drug addicts in the community over the next 10 years would be the ideal situation. However, those supporting a "dry reserve" were adamant that such a situation would not be of much help since it would only be a matter of time before the numbers slowly grew larger, especially among the young who are more susceptible to peer pressure and the "bad apple" effect. Therefore, this group contended that strict and rigorous enforcement of a complete ban, coupled with better support and rehabilitation services in the community, was the only answer. Most participants agreed that a detoxification centre was urgently needed in the community. Currently, the people in the

community who want to enter rehabilitation programmes are forced to go to Fort St. James or Prince George for treatment. Participants stressed that this system did not work well because most people returned to the reserve and, inevitably, also returned to their old habits. Participants suggested that the availability of these services on the reserve would enable people to seek treatment within the home environment which would, in turn, set a good example for other people to seek help. Also, it would impose a certain amount of social pressure upon the patient to stay sober for longer, or for good, once treatment was officially over.

The control of misuse and overuse of prescription and over-the-counter-drugs was another goal identified by the group. Health workers who participated in the discussion indicated that the recently developed system called Pharmanet, which bills pharmaceutical purchases against a personal care number, has been moderately effective in regulating purchases. However, the easy availability of the same medications on the street, as well as human ingenuity in combining various seemingly innocuous pharmaceutical drugs, provides users with a steady stream of potent and dangerous concoctions. Here too, most participants agreed that it was up to the individual to make the changes. Several participants stressed that, in addition to institutional control, it was equally important to address the psychology behind the need to abuse alcohol and drugs. A community social worker made a forceful argument when she commented: "What comes first? The chicken or the egg? The reasons why people are drinking and doing drugs need to be addressed first."

Another member of the health staff expressed frustration about the scant attention these issues received: "Our leadership leaves social issues and health at the bottom. Sometimes I wonder... when we get all this land, who's going to live on it? Doesn't seem to

me like there'll be many people left if they keeping dropping like flies from drug and alcohol abuse."

Participants also discussed the implications of children being placed in foster homes because their parents are incapable of taking care of them due to alcohol or drug problems. They described how parents do sometimes succeed in cleaning up and getting their children back, but more often than not, lose their children again when they "fall off the wagon."As a result, many Tl'azt'enne children end up with very unstable childhoods that perpetuate themselves through troubled adult lives.

Additionally, participants expressed concern about the number of accidents and deaths, especially among young people, due to drunk driving. A large number of participants were acutely distressed about the large number of children born in the community with fetal alcohol syndrome (FAS) as well as other congenital effects of alcohol and substance abuse. They were equally concerned about the lack of support services in the community for people who wanted to rid themselves of such addictions.

Participants attributed an overwhelming number of the community's problems, including its pervasive sense of inertia and lack of motivation, to drugs and alcohol. They blamed such addictions for ravaging the community in such a way that people stopped caring about anything else. They asserted that such dependencies coupled with the easy option of living off social assistance prevented people from making efficient use of available resources and also from aspiring for better lives than the ones they are used to.

During the course of the focus groups and interviews, it was discovered that participants were under the impression that there was a by-law in the community prohibiting the use of alcohol. Participants expressed concern about the lack of enforcement of by-laws

related to drugs, alcohol, and vandalism. They identified it as the Chief-and-Council's duty to enforce regulation, but at the same time concurred that it was more important for parents, families and finally, individuals to take responsibility for enforcement rather than depend on an administrative agency to do so. It was later discovered through interviews with administrative officers that no such by-law exists in the community or existed in the past.

Communal Unity and Vision

The lack of long-term vision and unity in the community were the other issues that emerged during all discussions. Participants stated that most people in the community led isolated lives and seldom socialized except to drink. Participants stressed that a healthy amount of social interaction was necessary for people to discuss their futures as well as the future of the community. However, the motivation to create the occasions or forums within which such interaction could take place was generally lacking in the community. The participants said that the poor communication between community members was responsible for the tendency to gossip, spread rumours, and focus excessively on negative aspects of the community. The communal inertia or lack of motivation was deemed to be responsible for a large number of its problems. Therefore, most of the participants agreed that any sociocultural event that encouraged the generation of constructive ideas, opinions and debate about the community and its future was invaluable to the community and should be supported at all costs. "The people in this community are much more in need of emotional help than financial or physical help. They need more healthy intellectual stimulation..." commented one participant.

While describing the lack of community unity as one of its major stumbling blocks, participants were also quick to concede that the same community was capable of tremendous

cohesion and unity during crisis. Almost all participants agreed that the will to be productive and useful to the community did exist. Unfortunately, it usually takes a major crisis or tragedy to bring people in the community together for constructive action. Participants spoke about the 1997 boat accident that claimed the lives of three men and described how the community organized the volunteer search camp. They were proud and happy that even people who were normally aloof and uncooperative participated in the search and willingly volunteered to spend very long hours working. Many participants strongly believed that the community could make considerable progress if that motivation could be created during normal times. One focus group participant commented: "People can get together without a pay check during tragic times. We need to sit around a table and provide more goals for ourselves. Just keep going...."

Secondary Issues
Education

Most participants agreed that educational levels were generally low in the community. Therefore, the first educational priority was to get more students to complete high school. Additionally, a large number of participants mentioned that better facilities were needed for the education of older people and for people who want to re-enter high school. Special job-oriented skill development programmes, as well as programmes that teach parenting and counselling skills, were perceived to be lacking in the community. It was felt that such education would help address the acute need for more support services in the community for various groups of people with special needs including alcoholics, drug addicts, battered women, and abused children. A large number of people expressed dissatisfaction with the community leadership and stressed the need for the emergence of new role models from

among the younger generation in the community. They stated that it was vital that there be better representation of Tl'azt'enne in different areas of employment within the community. The participants wanted to see more Native people hold positions in the band office, school, research and development, and education centre and argued that this could only be possible if educational opportunities became more accessible to people.

A large number of participants agreed that a general high school level education would motivate and empower people to seek employment and education in a variety of fields, thereby diversifying the skills and abilities available in the community and also reducing the need to look exclusively to the pulp and paper industry for employment.

There were other participants who remarked that the lack of motivation, among many community members, to lead productive lives was a larger problem than the volume of educational services. They were of the opinion that, although the educational services in the community are not excellent, there is more than enough opportunity for every member in the community to acquire a basic education. Many participants stressed the accessibility of the education centre to all three communities that comprise the Tl'azt'en Nation as one of its greatest strengths because it allowed residents to go to school without leaving the community. The participants who were students at the Tache Education Centre indicated that none of them would have had the opportunity to attend the University of Victoria to study early childhood education and that they were very fortunate to have the programme available to them through the centre.

Middle River interviewees were very concerned about the absence of a permanent school in that community. A teacher from the Eugene Joseph School at Tache visited the community three times a week and taught classes in a one-room trailer. Consequently,

several thirteen- or fourteen-year-old children who lived with their families in Middle River had levels of reading and writing that would be the norm for children in Grade 2 or 3.

While discussing his concerns about education in the Tl'azt'en Nation, Larry Finden, principal of the Eugene Joseph School stated that problems existed at two or three different levels because the current system was attempting to meet the needs of people between the ages of approximately two and thirty. Additionally, Finden identified inadequate funding as a major constraint. He explained that, although the Band received money from the DIA for each child, the amount was not enough to meet the needs of the school. The large number of children in the community with special needs made ends more difficult to meet. Finden discussed how many children lack the discipline, goal-setting abilities, and time and deadline orientation that are vital for success in the education system. He also explained that there is not enough pressure to be at a certain level of education by a certain age and consequently, many people in their twenties and thirties are quite happy to re-enter high school. Finden comments that, although people realize the importance of getting a good education, they are not able to set educational goals for themselves.

On a positive note, Finden mentions being impressed by the number of parents who are interested in becoming involved in their children's education and in school activities. He explains that most people in the community want their children to be successful academically but often themselves lack the education to be of optimum help to their children. They have all the right intentions but often lack a good understanding of "what it takes" to raise academically successful, well-balanced children. With these observations in mind, Finden

remarks that the greatest educational need for children is the availability of constant well-focused support from family.

Housing

There was a great deal of concern about housing in the community. Participants wanted to see the problem of overcrowding addressed so that fewer families would be forced to live together. As well, there was concern about the poor quality of houses, the lack of adequate heating, plumbing facilities, and the number of houses in the community that were condemned by the Department of Environmental Health but continued to be inhabited out of necessity. Several people suggested the need for aggressive activism and media coverage to improve housing conditions on the reserve. While discussing the issue of housing, participants acknowledged that band administration faced severe financial constraints on building houses and equipping them with the required amenities. They also mentioned that, because houses were band-owned, there is no "pride of property," and many occupants fail to maintain their homes in good condition.

The only group of people who expressed satisfaction with their housing was the satellite community at Middle River, where all interviewees agreed that the quality of housing had improved dramatically in the last couple of decades. One elderly participant in Middle River mentioned that, even as early as ten years ago, people in the community could not imagine having houses with heating and electricity.

Health

Health issues were frequently raised during the course of the consultation. Concern was expressed about the high incidence of respiratory illnesses such as pneumonia, asthma

and bronchitis in the community. Problems with water quality and the frequent outbreak of water-borne diseases were issues that were also frequently discussed. It was mentioned that most people in the community purchased drinking water or had to boil lake water prior to drinking. It was mentioned that this would not be necessary if a water treatment and purification plant was established in the community. The need for a sewage disposal plant was also identified. The present system of emptying solid waste into the community lagoon was deemed undesirable and perceived to be the reason behind the frequent outbreaks of water-borne diseases in the community.

Issues related to physical, mental and spiritual health were also discussed. Almost all issues were in some way linked with the pathologies of alcohol, substance abuse, and poor self-image.

There was a mixed response to the issue of violence in the community. The first focus group, comprised solely of women of various ages, unanimously agreed that they knew of no violence against women in the community. However, all the other groups mentioned that there was a serious problem of violence in the community and that women and children were most frequently the victims. When I mentioned this difference of opinion in the focus group with youth, one young man sniggered and asked me to "..stick around on a Saturday night and see for yourself." Four groups expressed that it was very important for the community to organize workshops and other programmes to help violent men with anger management. All groups agreed to various levels of child abuse being present in the community but agreed that most of it was as a result of alcohol and drug abuse. One woman recalled being at a party where a group of intoxicated young men filled a young child's milk bottle with beer and

forced him to drink it. Then they stood around and laughed as he ran into walls and finally collapsed on the floor. She said, "I don't think those guys were trying to be evil. They had seen adults do stuff like that and thought it was ok to do it. They've had very bad upbringing; that's the problem..." The issue of violence highlighted how intricately interconnected social issues are, and a large number of people agreed that while it would be possible to identify isolated goals and suitable institutional mechanisms for individual issues, it would more desirable to focus on improving general emotional and mental health of the community as a long-term solution to these problems.

A number of participants were excited and optimistic about the health and wellness programs being offered in the community. One participant discussed the relevance of these programs to the community's future well-being:

> Take the example of the early childhood education program. It is a very exciting thing. Just the fact that women of all ages are learning about the importance of child care from conception onward is a very important thing. The awareness that these women have is wonderful. Issues like FAS, and FAE, are being addressed. Just the fact that babies and toddlers now have a better chance of leading healthy lives than they did before is a big plus for the community especially since these people will lead us one day.

Employment

There were different perspectives on the issue of employment opportunity. In three of the five groups, it was mentioned that the community provided adequate economic opportunity for people who had the requisite skills and were willing to work for wages. Several people stressed that the jobs provided by Tanizul, Teeslee, and the Tl'azt'en Cabinet Shop were major incentives for choosing to live in the community. Several participants were pleased about being able to live and work in the same area and not having to travel large distances to get to work. There were other participants who mentioned that the only available

jobs were in the mill and most unemployed people were inadequately trained for them. It was also stated that a large number of mill jobs were rendered obsolete by the increasing use of a variety of machinery. From these comments, it may perhaps be understood that the complaint is not so much about the lack of employment as it is about the lack of variety in employment.

This observation was supported during the interviews in the community. One participant expressed his frustration about the lack of economic enterprise in the community:

> There is a great need to diversify. There are jobs right in the middle of the community, but someone else is doing it. For example, snow clearing on Tache road is contracted out to some agency in Vanderhoof. Why? We have a tree farm licence in Tl'azt'en Nation, but who logs it? People from Fort St. James, not Tl'azt'en loggers. The actual logging that is done, the people who operate the machines, people who hand-fold trees are not Tl'azt'en members; they're contractors from Fort St. James. I mean how absurd can it get! Take the example of Eugene Joseph School. Not a single teacher is from this community. There are all these jobs in the vicinity. People don't even need to go to Fort St. James. There are grading jobs, road maintenance jobs, computer maintenance jobs. There is almost no self-employment or entrepreneurship in the community. Basic economic enterprise is missing....

Participants were also concerned about the poor representation of Tl'azt'enne in managerial positions within the community. They discussed how most positions of authority were filled by non-Tl'azt'enne. Participants perceived this as a big constraint, especially since it deprived young Tl'azt'enne of role models and careers to aspire to. Larry Finden, principal of the Eugene Joseph School discussed the lack of Tl'azt'enne teachers in the schools. He commented that it was challenging to even find adequately qualified First Nations teachers; suitable candidates from Tl'azt'en Nation were almost impossible to find.

The issue of administrative capacity was frequently raised by administrators who participated in the research. The dearth of well-trained people to hire for specific positions combined with funding limitations were identified as the biggest administrative problems. The lack of professionalism in some of the employees of the Tl'azt'en Nation was also

discussed as a stumbling block. Problems with attendance, work ethic and overall work habits were identified by all participants who held administrative positions.

It was also stated that attracting qualified people to work for the Tl'azt'en Nation has been difficult in the past. The last couple of years have been better because the general downturn in the economy obliged people to accept employment anywhere. There are still huge problems finding teachers for Middle River. These concerns were supported by the Band's research and development department who mentioned that it was almost impossible to find trained researchers from within the community. As a result, the community almost inevitably had to depend on outside sources like university professors and graduate students to conduct research work.

Recreation and Service Facilities

The absence of general recreation, shopping and service facilities was strongly felt. Participants felt that services like stores, a gas station, and a restaurant were essential to the economic well-being of the community because they would help redirect money into the community and also stop people from spending too much time away from the community. It was discussed that the lack of these facilities in the reserve caused money to be drained away from the community. As an example, one participant mentioned that, since people spent a considerable amount of time playing Bingo in Fort St. James, it may be a better idea to have a bingo hall on-reserve. The potential for tourism development was also discussed by three of the five groups.

The lack of public space in the community was frequently discussed. Gathering places such as cultural centres, playgrounds as well as restaurants and coffee houses were perceived to be

very important for effective communication and social cohesion. One participant summed it up when he said:

> There are no places for people to get together. Now there's just in-house communication. This way nobody's ideas about anything get challenged because at home hardly anyone is going to challenge you. In a coffee house, the same idea would be challenged.

While the need for recreational facilities was addressed by all the groups, it was especially stressed by the participating youth. A recreation centre with facilities for popular sports such as basketball and floor hockey, as well as educational opportunities like computer training, was considered very desirable by all groups.

Community Leadership

A large number of the participants expressed dissatisfaction with the quality of leadership in the community. Several participants stressed that the youth in the community needed role models. They also mentioned that some people who were currently in leadership positions were not capable of being sound role models because they were often themselves guilty of perpetuating pathologies that the community desperately needed to rid itself of. Many participants were concerned that the band administration appeared to constantly be short of money. They expressed unhappiness with the band's financial management, and several participants suggested that there may be some misappropriation of funds.

Several participants said that the average person in the community did not think very highly of the band administration. There was not a very high sense of ownership toward it, and most people seemed to think of it as an agency managing their funds for them. One administrator felt that most people in the community just wanted to get as much out of the Band as possible. He suggested that most people also thought the administration was unfair

and biased and that nepotism ran high. He admitted that nepotism and favouritism had happened in the past, but things had been cleaned up with the adoption of the operating principles of fairness, impartiality, fiscal responsibility, public participation, and transparency in administration. In light of these principles, the Band has recently adopted policies regarding issues such as employment criteria and dispute resolution. The band also recently published a gazette with council and committee decisions. He was optimistic that such measures would open up administration and render it more friendly, open and accessible. He discussed several other initiatives that were being planned, while simultaneously mentioning that, because work capacity was so low, everything moved at a slower pace. He also expressed that, while transparency in governance and administration was very desirable, there were costs associated with making things transparent. While the community is limited by funding, attempts were being made to make more resources available for things like publishing minutes of meetings and disseminating community research findings.

Community Participation

The need for better community participation was stressed by many participants. The youth were particularly supportive of a treaty youth group that would enable them to contribute their ideas to the treaty negotiation and land claims process. Most participants agreed that in recent years much has been done to provide all members of the community with opportunities to participate in the community's economic, social and political development. This was perceived as being a very positive development because it boosted the level of awareness in the community. One participant mentioned being proud of the progress individual citizens in the community had made in informing and empowering themselves to

participate in important political processes: "There is a sense of wanting better, a higher sense of self."

Language and Culture

A number of participants expressed anxiety and apprehension about the survival of Carrier language and culture in the Tl'azt'en Nation. Many were distressed by the breakdown of communication between and within different generations within the community. They attributed lack of parenting skills among many people in the community to poor communication between the generations.

The renaissance of Carrier language was deemed extremely important. There was agreement among many participants that the community could do a lot for itself in the preservation of language and culture. While agreeing that more adult language programmes, newsletters, radio and television programmes in Carrier would be very useful, many participants stressed that the everyday use of language in the community was what would be most beneficial. Many participants mentioned speaking Carrier at home on a regular basis. They supported the idea of instituting "Carrier only" days in the community. They were also in favour of the community organizing itself to start cultural activities like feasts and dances. They were especially supportive of events that allowed elders the opportunity to teach Carrier as well as traditional activities like hide preparation, fish cleaning and moccasin making to community members. Many participants were anxious that, although the Tl'azt'enne elders were extremely knowledgable about traditional skills, their knowledge may not be passed on to their children and grandchildren, who may have adopted lifestyles that obviated the necessity to learn traditional survival and occupational skills. Additionally, many young people were just unwilling to learn traditional skills and preferred to be associated with

professions and institutions of modern Western society. Therefore, it was felt that it was important to develop formal or informal situations within the community to increase elder access to younger generations of Tl'azt'enne.

Natural Environment and Historical Heritage

Many participants expressed concerns about the environment and also about the preservation of the community's historical heritage. A number of them were distressed by the extensive logging operations being carried out within traditional territories. Several participants mentioned being apprehensive about the nature of herbicides and pesticides being used in these areas. These participants mentioned being distrustful of the information provided by the Ministry of Environment about the benign and non-toxic nature of herbicides and pesticides sprayed in these areas. A few participants supported their suspicions with anecdotal information about declining availability of wildlife and fish, increasing incidence of suspicious diseases and tumours in wildlife and fish, and skin infections in human beings.

Road Conditions and Transportation

Transportation problems and poor road conditions were frequently mentioned. Repair and maintenance of plumbing, electricity and automobiles were extremely expensive because help had to be brought in from, or people had to travel to, Fort St. James. Most participants were in favour of the gravel road connecting the community to Fort St. James being replaced by a paved road.

Crime and Violence

Most participants complained about the high levels of crime and violence in the community. The poor relationship between the community and the RCMP was also mentioned as a cause for concern.

Community Motivation, Morale, Empowerment

Improving community appearance through better landscaping and garbage collection was identified as a worthy goal. It was felt that such activities were especially important to foster a sense of ownership or community pride in the Tl'azt'enne.

Participants considered the large number of youth in the community to be a definite asset. Approximately 51 per cent of Tla'zt'enne are between the ages of 15 and 24. Participants remarked that the youth in the community had tremendous potential, but needed proper guidance and role models to look up to.

It was also mentioned that community self-esteem and morale would be raised if some money could be raised within the community for recreational activities, youth programmes and youth employment.

Participants were divided about whether volunteer community clean-ups and landscaping drives would attract any volunteers. Currently, clean-ups were organized seasonally by the band administration and people were paid according to the number of bags filled. It mostly provided young people between the ages of 15 and 25 with temporary employment. Some people suggested that there were not enough people in the community who were civic-minded enough to volunteer participation in such endeavours. However, several people were certain that voluntary clean-ups as well as landscaping for the areas surrounding the main buildings like the band office, school, education centre and fire hall, could be organized periodically.

Additionally, participants commented that people were too dependent on the band office and expected it to provide for all their needs. One participant who worked as a receptionist at the band office recalls people phoning the office for everything from leaky

taps to fused light bulbs. She also mentioned that people wanted to be paid for even the most trivial jobs and seldom showed up for any kind of volunteer work.

Participants were also concerned about what they called "brain drain" from the community. They explained that people who did succeed in getting a good education and had the potential to be assets to the community did not return to the reserve but chose to pursue their careers elsewhere. They also added that the few who did return to work in the community were soon driven out by the jealousy and antagonism they experienced there.

Participants attributed the existence of a large number of problems in the community to the inability or lack of effort to communicate effectively between the younger and older generations, between families, and even between parents and children. Participants stressed that this failure to engage in meaningful conversation about important issues closed people's minds to new ideas, alternatives and philosophies. "People here are too scared to try anything new. They're too scared of taking risks, and they pass on this psychology to their children," commented one participant.

6.5 Comparison with Issues Identified by Literature Review

The problems of drug and alcohol abuse, presence of divided interests and visions, and the breakdown of communication in Aboriginal communities are discussed in the literature as being important variables determining the development of Aboriginal peoples' communities. The literature perceived them to be as important as other social, economic, or political issues. However, in the Tl'azt'en Nation it was generally agreed by research participants that those issues were so important that, unless they were addressed, the community would be unable to move on to other more important issues.

Similarly, issues such as control of education, heath and healing, and cultural preservation, that were identified as primary issues by the literature review were perceived to be of secondary importance by the case study community. Participants agreed that, while it is very important to address issues related to education, health and cultural identity, the community would only be able to achieve its fullest potential in those areas once the most glaring problems were adequately and appropriately addressed.

It was also surprising that participants in the case study community rarely mentioned issues related to control of governance and political development. The literature review identified the quest for self-government and the settlement of land claims as the most pressing priority of First Nations communities across Canada. These issues were discussed infrequently during the focus groups and interviews. They were only mentioned a few times in conjunction with other issues. A number of participants were actually sceptical that self-government would be capable of improving the lives of Aboriginal people.

Issues related to the control of lands and resources were also not perceived to be as important as they were in the literature review. While a large number of people expressed concern about preservation of natural and historical heritage as well as activities like logging and mining within the community's traditional territories, these issues were not considered integral to the community's well-being. Concerns about environmental health and well-being were also few and far between. One interview participant explained it by saying: "People are not going to worry about the trees when they have to deal with alcohol and violence at home."

There were other issues that were obviously important in the context of the case study community but were not discussed in detail in the literature review. These include problems

with recreation and service facilities, transportation and access issues, dissatisfaction with community leadership, poor community participation ability, low community morale and poor motivation.

A number of explanations can be offered to explain the differences between findings from the case study and those revealed by the literature review. One of them is that consultation processes are sometimes limited to community officials and agencies who present a more detached and comprehensive perspective of a community's problems and concerns. However, at the grassroots level, more immediate issues may be raised and perceived to be of greater importance since people are likely to feel more strongly about issues that affect their day-to-day lives. This appears to be true for the Tl'azt'en Nation where focus group participants expressed more concern for short-term issues while interview participants tended to address a wider range of short-term and long-term concerns.

Another explanation for the differences between the case study findings and the literature may be that some issues and problems are more typical for rural Aboriginal communities of the North. Issues related to recreation, service facilities, transportation and access appear to be more prominent in communities are that geographically more isolated than others. Additionally access to services that cater to people with special needs such as the elderly, victims of domestic violence, children with learning disabilities, and people with alcohol and substance abuse problems are limited for rural Aboriginal communities. This was discussed by research participants in the Tl'azt'en Nation and also stressed by the Royal Commission on Aboriginal Peoples.

A final explanation for the disparities between the case study and the literature review may be the open-ended nature of the questions posed in the focus groups conducted in the

Tl'azt'en Nation. Close-ended questions about issues that the literature identifies as important and relevant to the development of Aboriginal communities, may have elicited different responses and different emphasis for the same issues. Nevertheless, it is doubtful that such an approach would have generated responses significantly different from the ones that were obtained as a result of this study. A number of participants agreed that while the issues identified by the literature were important and needed to be addressed, the community would only be able to do justice to those issues once its most glaring problems were urgently, adequately and appropriately addressed.

6.6 Summary

This chapter describes how data collected for the study were analysed. It presents the final list of 45 indicators identified for the case study community. It also discusses and interprets the results generated from the study. Additionally, it compares the findings from research in the community with the information generated from the literature review.

For each of the goals identified, 1 to 6 indicators were selected. The list includes indicators such as percent of community members attending annual general assembly meetings as a measure of community participation in decision making, percent of community members suffering from diabetes as a measure of levels of health and percent of children in Carrier language classes as a measure of preservation of language and culture.

The focus groups and interviews conducted in the Tl'azt'en Nation drew attention to the existence of core issues perceived to be important enough not only to influence its general well-being, but also its very existence. The rampant abuse of alcohol and drugs and the lack of communal unity and long-term vision were identified as the issues that most require attention. Other concerns include general low levels of education in the community,

inadequate housing, poor levels of physical, mental and spiritual health, insufficient employment, meagre recreation and service facilities, transportation and access issues, uninspiring community leadership, poor community participation ability, loss of language and culture, high levels of crime and violence, and low morale and motivation.

While a number of concerns voiced by the community have also been identified as critical in the literature review, others appear to be especially prominent in the case study community. At the other end of the spectrum, questions of self-government and political development as well as the matters related to control of lands and resources were identified as pressing priorities by the literature review, but not described as critical concerns by the Tl'azt'en Nation. Explanations for the disparities explore the possibility that consultation processes may fail to capture grassroots opinions and concerns which are different from those presented by decisionmakers and representatives. Additionally, concerns about issues related to recreation, services and access may be typical of geographically isolated rural Aboriginal communities.

Chapter Seven: Recommendations and Conclusions

7.1 Introduction

First Nations communities across Canada are currently struggling to achieve control over their futures through the control of governance in all important aspects of their lives. While Aboriginal self-government has been presented as a vehicle to right the wrongs of an unjust and imperialistic past, many Aboriginal communities are feeling the pressure of problems that could seriously thwart their aspirations for self-determination.

In recent decades, there has been a general recognition that the solutions to local problems are best developed through community-based grassroots initiatives that involve all stakeholders. There has also been a growing focus on the collection of information about important issues at the local or community level. Unfortunately, relatively little attention has been directed to the development of methods by which First Nations communities can monitor the trends revealed by its major concerns or problems. Most administrators and researchers in Aboriginal communities are forced to rely on highly aggregated national or provincial data for Aboriginal people. While this information may serve as good benchmarks against which individual communities may assess themselves, they often do not meet the needs of local policymakers. Consequently, the need to develop reliable and valid monitoring tools linked to coherent theory is imperative if the concerns of individual communities are to be addressed.

This chapter will discuss the implications of the findings from the case study conducted in Tl'azt'en Nation, which attempted to address the above discussed gap by providing the community with a framework of practical indicators. It will discuss

recommendations and suggest areas in which future academic research would be beneficial and desirable. Additionally, it will discuss the role surveys can play in supplementing information generated by indicators. Finally, it will elaborate upon the limitations and constraints associated with the use of indicators to guide community development.

7.2 Implications for Tl'azt'en Nation

This study fulfilled an important role in the identification and assessment of different issues in the community. It provided an opportunity to obtain a deeper understanding of the opportunities and limitations that exist in the community. There can be several long-term and short-term benefits from conducting this study.

Community Dialogue and Participation

The study created a forum where Tl'azt'enne could discuss and debate their concerns about the future of the community. The focus groups offered community members the opening to voice their opinions about community affairs. As well, they served as "brainstorming" sessions for the identification of goals and the generation of ideas and strategies that may help achieve desirable targets. A number of participants perceived the community dialogue and involvement created by the research as very positive. They discussed the possibilities and advantages of assuming positions of stewardship in organizing similar panels within the community.

The process of verbalizing concerns and opinions may have the important implication of enabling participants to recognize shared goals and visions. Besleme and Mullin (1997) state that it is this process of open discussion that "provides meaning and credibility to information in a way that ultimately influences action."

A number of participants also stated that the examination of matters relevant to the community provided an important chance to ponder how to influence trends in the community by monitoring and controlling individual behaviour. This aspect of the research was especially inspiring since it was argued time and again during the research that many of the community's pressing problems could only be solved at the individual level by understanding and consciously influencing the factors that affect community well-being.

Providing Information for Treaty Negotiations and Land Claims Process

Because this research identified the community's most urgent needs, it may be valuable to the land claims process. It may help the community make a stronger case about its most pressing requirements during the process of negotiations. This may influence the allocation of finances and other resources to the community. Several administrators discussed the importance of conducting grassroots research that would provide the treaty negotiators with "ammunition" to stake their claims to resources that were critical for the survival and prosperity of the community.

Creation of New Institutions or Reorganization of Old Institutions

The research not only offered community members an opportunity to examine their social, cultural, environmental and political circumstances, but it also allowed for the prioritization of goals to suit local needs. This examination also resulted in an awareness of the nature and magnitude of constraints that must be overcome for the realization of goals. It may also support the creation of new institutions or administrative structures to deal with the community's prominent problems. Tl'azt'en Nation has been open and receptive to the idea of creating or restructuring administrative or supervisory structures. This is best documented

by the number of different panels and committees created within the community to deal with specialized problems related to health, housing, education and environment.

Support for Community Administrators and Policymakers

The information generated from this study can be used in several ways by policymakers and administrators. The data can be employed to set targets in specific areas such as health, education, employment, crime, and community infrastructure. This could have the potential of not only directing the sustainable development of the community but also of establishing accountability in different administrative sectors. Institutionalizing a system of publishing periodic reports of the indicators would provide the community with accurate and reliable information about the outcomes of different programs and services in the community. This will enable policymakers to keep track of whether the community's needs are being met and whether there are new problems that need to be addressed or areas that require additional attention.

7.3 Recommendations for Future Research

The findings from this research suggest differences between issues highlighted by the literature as being very important in contemporary Aboriginal communities and those identified by the case study community. While several explanations have been offered for these discrepancies in the previous chapter, it may be worthwhile to initiate further research. The premise that public consultation processes are often limited to decisionmakers and community representatives can be examined further. The documents published by the Royal Commission on Aboriginal Peoples, for example, were compiled from a variety of sources that included testimonies at the Commission's public hearings, briefs and submissions to the

Commission from groups and organizations, reports of the National Round Table on Aboriginal issues, independent research conducted by various organizations, and a variety of other commentaries. The actual levels of grassroots participation in such seemingly broad-based and representative consultation processes appear to be worthy of exploration. The findings additionally support that community representatives present more detached, long-term and comprehensive concerns while people at the grassroots level dwell on short-term issues that affect everyday living. It would be extremely interesting and informative to discover if such premises are indeed valid.

Additionally, the results from this research draw attention to the need for expanded governance, planning and management models or case studies that the community can follow to steer its development in all major areas of concern. These models should replace the current somewhat narrowly based preoccupation with acquiring more funding from the federal government which appears to dominate all aspects of the community's development. For example, to achieve economic self-sufficiency and sustainability of the economic base, the community must broaden its economic concerns beyond the present narrow political-fiscal purposes of achieving larger government grants and gaining more control over the Band's budget. It is important not only to preserve traditional economic enterprises such as hunting and fishing, and to encourage entrepreneurism and economic development on the reserve, but also to prepare Tl'azt'enne for participation in the employment and business opportunities afforded by the mainstream Canadian economy without loss of political, economic, cultural and social relationships to their home community. This view is supported by Boldt (1993)who states that "Indian economic self-sufficiency and independence will

never be more than an illusion if Indian economic development is premised on the tripodal economic model of traditional subsistence pursuits, on-reserve economic development, and government grants."

The use of detailed case studies will be equally valid in other areas where the community recognizes problems such as alcohol and substance abuse and high drop-out rates from the education system. Such a perspective would examine aspects of individual behaviour and their place in social systems to determine their roles in supporting or preventing problems themselves. This is especially valid with issues like alcoholism and drug addiction where, although there is a debate about the existence of genetic bases, they are most generally assumed to arise through a dynamic interaction of individual, social, and environmental factors. Gruenwald *et al.* (1997) encourage researchers involved in community-based studies of alcohol and drug problems to examine individual and social behaviours that characterize consumption of these substances and, most important, locate these behaviours within community contexts. As an example, a comprehensive approach to the study of illegal drug use might begin with an exploration of social dynamics underlying the motivation to use drugs. This may discover peer group or family influences. The study can be expanded to cover the social dynamics of obtaining drugs and continue with explorations of treatment-seeking behaviour among Tl'azt'enne. Such a study would have the potential to touch on any major community systems or institutions that may influence such behaviours. These may include the schools, the local illegal market, the treatment service system (or the absence of it), and the criminal justice system. Such studies would not only provide understanding of the individual, social, and economic forces underlying the creation

and maintenance of such problems, but also provide explanation for how community systems come to influence the problem.

The need for detailed description and understanding of community problems is specified not only in the literature but also by a number of Tl'azt'enne research participants. Gathering extensive information about children's schooling experiences in the Tl'azt'en Nation as well as the psychology and trends behind dropping out of school or alternately, reasons for returning to the educational system at a later time, was suggested by participants with responsibilities in the educational system. Larry Finden, principal of the Eugene Joseph School, suggested that if such studies involved a reasonably large number of students, they could lead to the development of models that would identify optimum learning environments and circumstances for Tl'azt'enne children.

7.4 Indicators and Survey Data

The validity of measurement has always been an area of concern in the social sciences. While social scientists have strived constantly to improve the accuracy of measurement, it is still acknowledged that there may be inherent problems in the measurement of complex social, organizational and behavioural phenomena. More than twenty years ago, this recognition led social scientists to propose a multimeasure approach to increase the confidence of observed results of the same phenomenon (Carmines and Zellner, 1979). It is suggested that survey data may provide a source of complementary information to support the development of indicators. By themselves, neither community indicators nor surveys provide a very complete picture of the community. However, when combined, they may provide a more comprehensive basis to analyse and evaluate the progress of

communities. Indicator information produced by community systems such as law enforcement agencies, educational institutions, economic systems and health care systems can be combined with survey research data that provide information about activities and views of individuals. Surveys do have limitations in terms of time, energy and budget. Also, any one survey can address a relatively small number of content areas. Sampling and self-selection biases may also arise with surveys. Nevertheless, relying on the strengths of the two measurement approaches may provide cross-validations of measured changes and deeper insights into the workings of communities and the people who form them.

7.5 Summary and Conclusions

The study succeeded in achieving all the established objectives. It explored and identified major factors that influence the sustainable development of the case study community, the Tl'azt'en Nation. It examined and described the nature and magnitude of the threats and opportunities that influence sustainable development of the community. It also identified a list of indicators that measure impact on sustainability and established selection criteria to facilitate evaluation of indicators selected by the community.

Case study methodology was used to meet the research objectives. Community consultation, in the form of focus groups and semi-structured interviews, formed the most central aspect of the research. Additional information was obtained from observations as well as from documents such as community profiles, economic development plans, government reports, minutes of annual general assembly meetings, and health assessment accounts. A final list of 45 indicators was developed through a sequence of steps involving the following: community consultation to identify issues and indicators; literature searches to fill in gaps in

information; establishment of 7 selection criteria, namely representativeness, understandability, measurability, data availability, reliability, responsiveness and attractiveness to the media; and iterative application of selection criteria to selected indicators in consultation with the community steering committee.

The findings drew attention to the existence of certain crucial and urgent issues in the community that were perceived to be important enough to influence not only the well-being of the community, but also its very survival. The extensive abuse of alcohol and drugs in the community and the community's lack of unity and long-term vision were identified as major stumbling blocks. Other major concerns identified as a result of the research in the community may be listed as follows: low levels of educational achievement; inadequate housing; poor levels of physical, mental and spiritual health; insufficient employment opportunity; scant recreation and service facilities; transportation and access problems; unimpressive community leadership; poor community participation ability; erosion of language and culture; degradation of natural environment and loss of historical heritage; high levels of crime and violence; and low sense of community morale and motivation. The study examined and appeared to support the assertion that solutions to local problems are best developed through community-based grassroots initiatives. The findings stress the need to develop credible and effective monitoring tools to meet the needs of individual communities.

Upon completion of the study, an examination and comparison of the results with the dimensions of sustainability described in Chapter 4 reveals that almost all the widely accepted characteristics of sustainable development were discussed directly or indirectly during the course of the research. Issues related to inter- and intra-generational equity, and

biological and economic diversity were raised frequently. Concerns about the use of renewable and non-renewable resources as well as problems with solid waste, and soil and water pollution were encountered on several occasions. Although, air pollution was not mentioned as a problem, many participants appreciated the air quality in the community and identified as one of the benefits of living in the community. Therefore, based on this study, the general characteristics of sustainable development, as described and diagrammatically depicted in Chapter 4, may serve as an adequate starting point for communities interested in developing their own goals and indicators.

The use of focus groups and interviews appeared to be quite effective for meeting the objectives of this study. In retrospect, it appears that more issues may have been discovered by conducting fewer focus groups and more interviews. The last two focus groups were not very effective in generating much new information. They served to reinforce, emphasize and provide more insight into issues that had been discussed in previous focus groups. Each interview, on the other hand, brought new issues and perspectives to the table. Therefore, although the repetition of issues in the focus groups may be perceived as important for ensuring adequate coverage of important issues, conducting more interviews may have unearthed additional relevant information. As well, it would have been very desirable to interview community members during the hunting season at the seasonal residence in Grand Rapids. More concerns and information about traditional occupations, contemporary hunting practices and control of lands and natural resources may have been obtained with such well-timed consultation.

The following are perceived to be the major benefits of conducting the study for the Tl'azt'en Nation: creation of a forum to encourage community dialogue and participation; providing information for treaty negotiations and the land claims process; the possibility of creating new institutions or reorganizing old ones; and support for community administrators and policymakers.

The findings from this study reveal fundamental differences between issues identified by the case study community as being vital for sustainable development and those identified by the literature. This seems to suggest that some community consultation processes rely on community officials and agencies and may not adequately represent grassroots concerns and opinions. They may also suggest that grassroots concerns are primarily short-term and personal while those presented by decisionmakers and administrators are more detached and far-sighted. The findings may also support that problems related to inadequate recreation and service facilities, transportation, and limited services for people with special needs may be more prominent in isolated rural northern communities. This premise lends itself well to a project that compares Aboriginal and non-Aboriginal northern communities.

Recommendations for future research include the need to examine the three premises mentioned above in more detail. Other recommendations include the desirability of conducting expanded case studies that examine individual or social problems and behaviours in the context of the community.

The study discusses the feasibility of combining indicators with survey data to provide cross-validations of measured changes and a better understanding of how communities function. The inability of indicators to produce change by themselves and the

need for suitable time and spatial frames for their valid interpretation are stressed as their major limitations.

While the researcher's ability to establish rapport with the community would influence the process to a large extent, the results seem to support that the case study research strategy is effective for conducting exploratory research in First Nations communities. The wider range of issues that are brought to the table through a case study and the in-depth exploration afforded by tools like focus groups, interviews and document analysis make it an advantageous research strategy and may compensate for limitations of generalizability.

Although extrapolation of the results of this study to other communities may be limited since different communities will tend to present different sets of circumstances and local conditions, it is expected that this case study will provide other communities interested in developing their own frameworks with the basics of how to develop a process, methodology and philosophy on which to build their studies. Therefore, while the indicators themselves may not be comprehensibly generalizable to other communities, the process appears to be.

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Appendix

Confidentiality Protocol for Focus Groups and Interviews

All research documents and interview materials will remain the property of the researcher. This will include focus group and interview audiotapes and field notes. Confidentiality and anonymity of the participants will be respected throughout the research process. All audiotape information will be transcribed by the researcher only. No participant will be referred to by name in the written reports unless the individual personally wishes to be identified.

Written reports of focus groups and interviews will be available to individual participants if requested and participants will be encouraged to provide feedback and additional comments. Written reports of the research findings will be provided to the Tl'azt'en Nation Band Office and additional comments will be incorporated into the final report. All publications based on research findings will acknowledge the contribution of the community. Upon completion of the research project, the audiotapes will be demagnetised by the researcher and all field notes will be destroyed.

Text of Consent Letter

Dear Participant:
The Ethics Committee of the University of Northern British Columbia requires that all research participants sign a consent form before becoming involved in any research conducted as part of a university programme.

I will be conducting research in the Tl'azt'en Nation as part of the graduate thesis that is a requirement for completion of a master's degree. The title of my thesis is *Sustainable Development of Rural Aboriginal Communities: A Case Study of the Tl'azt'en Nation.* The research will involve conducting discussion groups and interviews with members of the community. It will seek to generate information that will enable the following:
1. Identification of community goals and vision;
2. Identification of opportunities that exist in the community to support achievement of goals;
3. Identification of barriers that obstruct achievement of community goals or progress towards them;
4. Development of a system of indicators that will serve as a planning tool by allowing the community to assess their prospects for the fulfilment of community goals.

If you agree to participate in a focus group or interview, you will be asked questions relevant to the above mentioned objectives. The discussions and interviews will be audiotaped and field notes will be taken. I may quote information that you provide during the focus group or interview in the thesis. However, you will not be identified by name in any of the written reports unless you choose to be. **You have the choice to not be identified.** As well, you have the right to refuse to answer any questions or to leave the focus group or interview at any time. All data generated in the course of this research will be transcribed only by me and possibly perused by my graduate advisor. The identities of the participants will not be disclosed to any other individuals. Any references to the identities of the participants that would compromise their anonymity will be removed prior to the preparation of research reports and publications. Upon completion of the project, all audiotapes will be demagnetised and field notes destroyed.
If you agree to participate, please sign and return this letter to me.
Yours sincerely,
Bipasha Baruah, Researcher

I agree to participate in the **focus group/ interview** under the conditions described above. I am **willing/ not willing to be identified.**

Signature:

Date: