Community forestry: concept, applications and issues

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Forestry Development Directorate • Quebec Region

with assistance from Marie-Claude Sirois

Natural Resources Canada
Canadian Forest Service

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Canada

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TABLE OF CONTENTS

TABLE OF CONTENTS (cont'd)

INTRODUCTION

Community forestry can be defined as a form of forest management where the decision-making process is controlled by a community. This is a complex notion in which biophysical, economic and social considerations all come into play. Furthermore, the concept must be analysed in the light of actual experiences, which of course vary depending on the context wherein the concept is applied.

The idea of community forestry has aroused a great deal of interest in Canada over the last ten years. This enthusiasm stems from the success of two initiatives undertaken in municipal-run forests in the 1940s and 1950s in North Cowichan and Mission, British Columbia. The North Cowichan forest is located on municipal land, while the Mission forest is situated on Crown land. Both municipalities have adopted intensive multiple-use forest management, which provides a number of different benefits for their communities.

Following these early experiments, other community forests have been established, particularly in British Columbia and Ontario. Like the North Cowichan and Mission models, most are municipal-run forests. In Ontario, the Ontario Community Forestry Project was set up to support experimentation with the concept.

Very few community forestry initiatives undertaken in Quebec are similar to the Ontario and British Columbia models, aside from projects in aboriginal communities. Therefore, most Canadian studies do not cite any concrete examples from Quebec[1]. However, we believe that some types of forest management used in Quebec can indeed be considered representative of the concept of community forestry.

This study sets out to clarify the issue by determining the concept's main applications. This novel analysis will shed light on the implementation of community forestry in Quebec. In addition, the study will identify the main issues that arise in implementing the concept.

Consequently, Chapter 1 will define the larger concept of community economic development (CED), from which the notion of community forestry, which is defined in Chapter 2, stems. Chapters 3, 4 and 5 will examine community forestry initiatives in British Columbia, Ontario and Quebec through historical overviews, case studies and comparative analyses. Lastly, Chapter 6 will identify the opportunities and challenges to be taken into account in implementing the concept.

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[1] Particularly studies by Cowell (1992), Duinker et al. (1991), Dunster (1991a), Matakala (1991) and Zhang (1991).

To streamline the document as much as possible and yet make optimum use of the information gathered, descriptive elements will be presented in summary form, mainly as lists.

The author thanks Janice Campbell, Canadian Forest Service, Maritimes, and Pamela Cheers, Canadian Forest Service, Quebec, for their help in editing the English version of this study.

1. COMMUNITY ECONOMIC DEVELOPMENT

Community economic development (CED) is part of the broader notion of economic development. Therefore, we should begin by defining what is meant by economic development. According to Bouthillier et al. (1993), economic development is characterized primarily by social development, income distribution and environmental quality and, to a lesser degree, by economic growth. Economic development is meant therefore to be first and foremost an indicator of the quality of economic activity. Consequently, economic growth does not necessarily imply economic development (Bouthillier et al. 1993).

That said, CED can be defined as a specific form of economic development carried out on a local scale (Groupe Éconov 1993)[2]. The main features of CED include:

- active participation by the community, particularly in setting objectives;
- the integration of economic and social development based on a general, non-sectoral approach;
- a territorial approach in which the community is defined geographically.

Antony Usher Planning Consultant et al. (1993) capture the essence of the concept in the term "self-help." They describe CED as a process in which the local community sets its own objectives, decides what means are to be used to meet these objectives and does most of the work to achieve these objectives, though usually with support from higher levels of government.

What exactly is meant by a community? There is no simple definition that can be readily applied in all contexts. It can be said, however, that a community is a form of social organization that is both territorial and cultural in nature. The territory involved is determined therefore by solidarity, neighbourhood ties and by community members' sense of belonging. Dunster (1991a) described the perception of community members as such that, if they support the community, it will support them in turn. Matakala (1991) also points to solidarity as part of the rationale for CED. In his view, only the members of the community who are accountable to the community can make decisions that are likely to result in true economic development.

In urban areas, a community may be a single neighbourhood or group of neighbourhoods or a small municipality. In rural areas, it may be a village, small municipality, Indian reserve or a combination of these. According to Antony Usher Planning Consultant et al. (1993), communities often vary a great deal in terms of territory and, in many cases, there is no clear definition of territory at all.

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[2] Unless otherwise indicated, the information on CED is taken from this source.

Furthermore, according to the same authors, local governments are usually, but not always, involved in CED initiatives, which may in fact arise from opposition to programs put forward by local governments.

Most authors agree that the CED approach first became popular in North America in the 1960s in American cities as a way of dealing with poverty and discrimination. In Canada, CED first appeared in rural areas as a way of reducing regional economic disparities.

As we will see later, the same conditions fostering the emergence of CED initiatives also apply to community forestry initiatives:

- economic decline and rural out-migration;
- deep disillusionment with governments' ability to solve problems;
- a sense of powerlessness in the face of major socioeconomic trends, such as economic restructuring and the globalization of markets;
- gradual erosion of the quality and quantity of public services;
- growing inability of governments to maintain the current standard of living and of the private sector to create worthwhile new jobs;
- the gradual and continuing impoverishment of increasingly larger segments of society;
- the lack of influence that communities have on major decisions that affect them.

These circumstances make it essential to look for innovative local solutions to stimulate economic activity, particularly job creation in communities in decline.

In its analysis of CED for the Federal Office of Regional Development (Quebec), the Groupe Éconov (1993) reached three main conclusions. Firstly, it is no longer necessary to prove that CED is a legitimate, effective mechanism for development. Secondly, governments are increasingly interested in the CED approach, although there are still no co-ordinated CED policies; for example, in the 1989-1990 fiscal year, the federal and all the provincial governments spent over $230 million to support CED. Thirdly, the authors expect the CED approach to take on strategic importance in the next few years, given current trends in job creation and economic restructuring.

2. THE CONCEPT OF COMMUNITY FORESTRY

The concept of community forestry has been interpreted in a number of different ways depending on the context in which it is implemented and the author's point of view. Gregersen and Lundgren (1990) suggest that in developing countries, community forestry is synonymous with social forestry and covers a wide range of *forestry activities* carried out by land owners and rural community groups to obtain products for their own use and to generate revenues. The Conservation Council of Ontario (CCO 1989), on the other hand, defines a community forest as *forest land* managed by a local community to provide multiple benefits that would be difficult to obtain otherwise. As a further example, according to Antony Usher Planning Consultant et al. (1993), community forestry is a *partnership* between the province (Ontario in this case) and one or more communities with an interest in a specific forest.

Whether they focus on activities, the forest itself or partnership, most definitions of community forestry in the North American context (USDA Forest Service, no date, in Duinker et al. 1991; AIFPQ 1940; Dunster 1991a; Zhang 1991; Hyde 1992; Bouthillier 1992; CCO 1989) have three elements in common:

1) community forestry involves a tract of forest land managed for a variety of purposes;
2) the decision-making process is community controlled;
3) community forestry provides tangible socioeconomic benefits for the community.

Community forestry can be defined therefore, in a broad sense, as the control of forest land by a community to provide local benefits. This form of control implies the decentralization of authority and, as a consequence, the establishment of new types of partnerships for managing forest resources.

This general definition covers a wide range of initiatives with different socioeconomic contexts, forest types, management objectives and degrees of community control.

Like Dunster (1991a), we believe that the greater the community's involvement in all aspects of forest management, the closer the initiative becomes to true community forestry. From this standpoint, community forestry can be defined as the management of forest land for and by the community. This definition is consistent with the larger concept of community economic development.

The concept of community forestry is further clarified in subsequent sections by examining actual case studies. For the time being, readers should note that community forestry does not correspond to open access (non property) regimes in which all parties are free to use the resources as they see fit, as in the situation described by Garrett Hardin in 1968 in his famous

book *The Tragedy of The Commons* (Oona River Community Association and Mitchell-Banks 1993). Community forestry implies the existence of a local decision-making process and, therefore, the controlled use of resources.

3. CANADIAN INITIATIVES OUTSIDE OF QUEBEC

This chapter examines Canadian initiatives in community forestry outside of Quebec. Since most of these initiatives are located in British Columbia and Ontario (Duinker et al. 1991 and 1994; Cowell 1992; Wildman 1991; Zhang 1991), we will limit our discussion to cases in these two provinces. Furthermore, since the current interest in community forestry focuses mainly on initiatives in non-aboriginal communities, we will restrict our discussion to this application.

Section 3.1 provides a historical overview of how community forestry was introduced in British Columbia and Ontario, while Section 3.2 examines five actual initiatives. This will allow us to draw certain conclusions on the implementation of the concept outside Quebec.

3.1 Historical overview

In Canada, a number of communities manage forest lands according to the principles of community forestry. However, the initiatives in North Cowichan and Mission in British Columbia were the first to attract public attention to this type of forest management (Duinker et al. 1991). Since these projects will be examined in greater detail in Section 3.2, we will limit our comments here to the fact that these community forests originated in the 1930s and 1940s when the lots reverted to the municipalities because of their owners' failure to pay their property taxes. Both forests are fairly small (10 400 ha in Mission and 5 000 ha in North Cowichan) and are coastal forest. The North Cowichan forest is owned by the municipality, while the Mission forest today consists mainly of Crown land.

Both initiatives are financially self-sufficient in the sense that the revenues generated (including contributions from higher levels of government) cover the operating costs (Zhang 1991). In both cases, profits have been used to build up large cash reserves that are reinvested in the forest or spent on municipal infrastructures (K. Allan and D.J. Frank, 1993, pers. comm.). Both initiatives have created many jobs and have helped to diversify the local economy (Zhang 1991).

In the wake of these early experiments, other community forests were established in British Columbia, such as the initiatives undertaken around 1988 by the municipalities of Clinton and 100 Mile House. The Clinton and 100 Mile House forests, which are located in interior British Columbia, are managed through woodlot licences, a form of tenure of public forest lands in British Columbia. Both forests cover 400 ha, the maximum area permitted under this system (J. Castonguay, 1993, pers. comm.).

Other community forestry projects are currently in the planning or early implementation stages in other communities in the Province, including Oona River (Oona River Community Association

and Mitchell-Banks 1993) and Revelstoke, where the municipality obtained management rights for a tract of Crown land in 1994 (Duinker et al. 1994).

Readers should note that the British Columbia government has no specific strategy for encouraging community forestry initiatives although the 1991 Provincial Forest Resource Commission recommended that community tenures be established on small parcels of public lands (Duinker et al. 1994).

Most of the other community forestry initiatives undertaken by non-aboriginal communities in English-speaking Canada are in Ontario. The best-known examples are the pilot projects under the Ontario Community Forestry Project[3], which was developed as part of the Ontario Ministry of Natural Resources' (OMNR) Sustainable Forestry Program. The aim of the Community Forestry Project is to increase opportunities for local participation in forest management. It is comprised of three components:

- the study of forest management mechanisms or partnerships involving communities;
- the testing of the concept by the establishment of four pilot projects;
- the development of an Ontario community forestry strategy based on the results of the first two components, to be completed by 1995.

The main criteria for participation in the pilot projects include (MRNO, no date):

- the community must set up its project on Crown land, except in the case of native communities;
- the Ministry of Natural Resources shall remain the final authority concerning the management of forest resources on Crown land;
- in addition to the financial assistance provided by the Ministry, it is expected that other sources of funding will be found to help with the implementation costs;
- pilot projects must aim for long-term self-sufficiency;
- community forests must be established in accordance with existing agreements between the province and forest resource users;
- the communities are responsible for involving residents in decision-making;
- the communities must produce a general implementation plan and a detailed action plan;
- there is no guarantee that the pilot projects will continue beyond the end of the trial period (March 1995).

[3] Unless otherwise noted, the information on this program in this section is taken from Antony Usher Planning Consultant et al. (1993).

Twenty-two communities or groups of communities expressed an interest in participating in the program (Harvey 1993). On March 27, 1992, the OMNR announced the four pilot projects selected: Geraldton (65 400 ha), Elk Lake (470 000 ha), Wikwemikong First Nation (43 000 ha) and the 6/70 Area Economic Diversification Committee (333 000 ha), a coalition of six communities in the Kapuskasing area. Two of these projects are examined in the case study in the following section.

3.2 Case study

The purpose of this section is to identify the main characteristics of community forestry in British Columbia and Ontario by examining initiatives undertaken in the following five communities:

- North Cowichan, British Columbia
- Mission, British Columbia
- 100 Mile House, British Columbia
- Geraldton, Ontario
- Elk Lake, Ontario.

Our analysis is based on the project summaries in Appendix 1. They provide a brief description of each initiative, including the community in question, the origin of the initiative, the nature of the forest land, the decision-making processes used, management objectives, forestry operations and the impact of the initiative. For comparison purposes, Table 1 outlines the key parameters of these initiatives.

3.2.1 Characteristics of British Columbia initiatives

Certain common features were found in the three British Columbia initiatives, which we have divided into five main categories: the type of initiative, the objectives, the forestry practices used, financial viability and community support.

Type of initiative

- These are all fully operational projects that are managed and operated by the municipalities involved.
- Except for the North Cowichan project, all the forests are on Crown land and are managed through land tenure systems (tree farm or woodlot licences) not designed specifically for community forestry. However, these forms of tenure have proved to be an adequate framework for implementing the initiatives.
- The forest tracts in question range in size from small to medium (400 ha to 10 400 ha) and all have fibre productivity levels higher than the Canadian average.

Table 1. Key parameters of five community forestry initiatives in British Columbia and Ontario

Community	**North Cowichan**	**Mission**	**100 Mile House**	**Geraldton**	**Elk Lake**
-type	municipality	municipality	village	municipality	municipality
-population	23 000	30 000	5 500	2 500	600
-location	60 km from Victoria	70 km from Vancouver	200 km from Kamloops	260 km from Thunder Bay	230 km from North Bay
Year established	1946	1958	1988	1992	1992
Status	operational	operational	operational	pilot project	pilot project
Land					
-area	5 000 ha	10 400 ha	400 ha	65 400 ha	470 000 ha
-tenure	municipal	87% provincial[a]	provincial	provincial[b]	99% provincial[c]
-forest type	coastal	coastal	interior	boreal	boreal
Forest management practices					
-multiple-use	yes	yes	yes	yes	yes
-priority	timber	timber	timber	timber	timber
-intensive[d]	yes	yes	yes	yes	yes
-scale[e]	small	small	medium	medium	large
-annual allowable cut	23 000 m^3	41 200 m^3	870 m^3	41 000 m^3	491 000 m^3
Management					
-independent[f]	yes	yes	yes	partially	no
-government funding	yes	yes	yes	yes	yes
-reserve fund[g]	yes	yes	yes	---	---

[a] 13% of the land belongs to the municipality.
[b] Approximately 3% of the land is privately owned.
[c] As a percentage of the productive forest land (376 400 ha).
[d] Forest management that goes beyond simply getting the harvested areas back in production.
[e] Scale of operations: small (<10 ha), medium (10-50 ha), large (>50 ha).
[f] Controlled by the community corporation.
[g] Not applicable to Ontario pilot projects.

Objectives

- The original objectives of the North Cowichan and Mission projects were to create local jobs, run an operating surplus, and provide a supply of timber for the local wood processing industry. Although these communities were predominantly rural when the initiatives were launched, today the community dynamics are much more urban. Economic growth in Victoria and Vancouver is affecting the demographics and economies of North Cowichan and Mission respectively, as well as what residents in the two communities expect from their forests. These changes have resulted in a shift in objectives from job creation to recreational and educational activities. It should also be noted that, despite the more rural context of the 100 Mile House project, it also has a recreational and educational component.

- Generating revenues from forestry operations is still a primary objective, since they provide the core funding for integrated management activities.

Forestry practices

- Most forestry operations, including cutting, are carried out on a small (<10 ha) to medium (10-50 ha) scale, which is smaller than traditional forestry operations on Crown land in British Columbia.

Financial viability

- As indicated in the historical overview, the North Cowichan and Mission initiatives have received substantial government funding, mainly through provincial and federal job creation programs. The amount of funding received varies from year to year depending on the availability of government funding.

- These initiatives generate operating surpluses that have allowed substantial reserve funds to be accumulated, indicating that they have obtained a certain degree of financial self-sufficiency. This is also true in the case of the 100 Mile House project, where forestry management operations are financed mainly by revenues from timber harvesting.

- Aside from government funding, several other factors have contributed to the financial viability of the initiatives, including the good condition of the forest (restored in the case of North Cowichan), fibre productivity levels above the Canadian average and the proximity of timber markets.

Community support

- All three initiatives are well regarded in the community because of the local benefits they have provided (operating surpluses, job creation, educational and recreational opportunities, etc.)

3.2.2 Characteristics of Ontario initiatives

The Geraldton and Elk Lake projects have a number of distinctive characteristics that we have divided into two main categories: the type of initiative, and objectives and achievements.

Type of initiative

- Both are pilot projects set up by municipalities that are remote from large centres, that have resource-based economies, and that face major socioeconomic problems such as economic stagnation or decline and shrinking populations.

- Both projects are being carried out on large tracts of Crown land in the boreal forest.

- Funding is provided mainly through the Ontario Community Forestry Project. The viability of the two projects will be assessed in March 1995 by officials from the project.

- In both cases, a steering committee separate from the town council is responsible for managing the project. These committees are composed of local and regional stakeholders, including the companies that hold cutting rights to the land in question. Since these are pilot projects, community forestry corporations exercise only minimal (Elk Lake) or partial (Geraldton) control over forest resources.

Objectives and achievements

- As befits their context, the aim of both initiatives is to promote local economic development, mainly through job creation. Accordingly, a strategy based on integrated resource management, with the emphasis on timber production, has been adopted. Other management objectives include the development of wildlife-based, recreational and educational activities and the creation, through training, of a local silvicultural labour force to work in the community forest or elsewhere.

- Since their creation, the community forestry corporations have focused their efforts on setting up management structures, identifying management objectives, assessing forest resources, carrying out silvicultural operations and training a local pool of silvicultural workers.

As we can see already, there are many important similarities and differences in community forestry initiatives in the rest of Canada. The similarities include municipality-based administrative structures, intensive and integrated management practices and the crucial role played by government funding. The main differences occur in the projects' socioeconomic contexts and objectives and the characteristics of the forest land where they operate.

4. INITIATIVES IN QUEBEC

This section provides an overview of community forestry in Quebec. Readers should note that this description is guided by our definition of the concept, which is discussed in Chapter 2.

Section 4.1 provides a historical overview of how the concept has been implemented in Quebec and Section 4.2 describes current initiatives through a case study.

4.1 Historical overview

The idea of community forestry is not new in Quebec. In 1911, the provincial government established a special form of land tenure, township reserves, which had some similarities with community forests. The objective was to help rural communities by recognizing residents' needs for lumber and firewood. Although provincial forest service officers were supposed to control harvesting, the reserves became a local asset managed by local people. In most cases, harvesting was completely uncontrolled and the system was eventually abolished (Duinker et al. 1994).

In the 1930s, another attempt was made to establish community forests in the Gaspé. Faced with declining markets for their fish, residents fought to gain access to forest reserves, which they hoped would provide villages with an economic base. However, the project never came about due to the Second World War and the accompanying upturn in the economy (Duinker et al. 1994).

In more recent decades, a set of experimental forestry initiatives associated with community economic development have arisen in eastern Quebec. These initiatives are linked to the emergence, in the 1970s, of three types of community action organizations in the continuation of a process that began in the 1950s (Groupe Éconov 1993):

- *Opérations Dignité*, pressure groups fighting the closure of parishes and promoting integrated resource management;
- *development co-operatives* in the form of land management or production co-operatives;
- *resource development corporations* and *community development corporations*, the former being the forerunners of the current joint management groups in the forestry sector.

Among the numerous initiatives that have grown out of this popular movement in eastern Quebec, three in particular have characteristics similar to those of community forestry. They are the Sainte-Paule tree farms, the «Groupement forestier de l'Est-du-Lac Témiscouata» and the «Société d'exploitation des ressources de la Vallée» (SERV). The latter two are still in operation and are discussed in the case study in Section 4.2. Therefore, in this section, we will limit our

discussion to the Sainte-Paule initiative, which was a prototype for community controlled tree farms.

The project to create tree farms in Sainte-Paule was closely linked with «Opération Dignité 1». The idea originated around 1968 in the Sainte-Paule development committee and at the local and regional levels of the Catholic Farmers' Union[4]. For the residents of this village in the Lower St. Lawrence region, the concept of tree farms was a symbol of hope and a way to ensure the economic viability of their community, which at the time was threatened by closure (Banville 1977).

After intense lobbying of government authorities, the tree farm pilot project came into being in 1969. Its primary objective was to determine under what conditions tree farms could be financially viable (CERFO 1995)[5].

The Department of Lands and Forests was commissioned by the Quebec government to oversee the pilot project during its first three years (1970-1972), followed by Université Laval's Forest Research Foundation during the next two years (1973-1974). Five tree farms ranging in size from 175 ha to 300 ha were established on intramunicipal lots around Sainte-Paule. These units were expected to provide annual revenues of approximately $6 000[6] per farmer, mainly from the sale of timber.

With support from the Catholic Farmers' Union, the Sainte-Paule development committee became actively involved in the initiative. It demanded that it be kept informed through the implementation of the project and made a number of recommendations (L. Otis, 1994, pers. comm.).

The outcome of the project was not conclusive. By 1971, two farmers had already abandoned it. The report on the project revealed that an inadequate forest inventory had resulted in an insufficient standing volume (poor condition of the forest and too small area) on at least three of the five farms. Furthermore, the five-year trial period was probably not long enough to conduct a thorough cost-benefit analysis.

In this case, a community organization launched the project, defined its main direction and influenced but did not control its implementation.

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[4] Now the Quebec Farmers' Union («Union des producteurs agricoles» - UPA)

[5] Except where otherwise noted, the information on the Sainte-Paule project in this section comes from this source.

[6] In 1970 dollars.

Since 1985, a number of community forestry initiatives have also arisen under the Forest Management Program for Indian Lands (FMPIL) administered by the Canadian Forest Service[7]. Ten or so aboriginal communities are currently participating in the program. These communities control roughly 95% of the accessible productive forests on aboriginal land in Quebec (Forestry Canada 1989). Two of these initiatives will be examined in greater detail in the case study in Section 4.2.

At the end of the 1980s, a new set of community forestry initiatives with different dynamics began to emerge in rural Quebec. Initiated by local and regional authorities, several of these projects involve setting up tree farms under the supervision of community organizations. These include the Lower St. Lawrence Model Forest and projects by the Matane Regional County Municipality (RCM) and the Mékinac-Des-Chenaux community futures committee («Comité d'aide au développement des collectivités (CADC) de Mékinac-Des-Chenaux») in the Mauricie region. Other models have also been proposed, including some for the management of intramunicipal lots in the Abitibi-Temiscaming and the Saguenay-Lac-Saint-Jean regions. Three of these recent initiatives will be examined in the case study that follows.

Finally, it should be noted that, in December 1993, the Quebec government established a new type of tenure for the management of public forests, the forest management agreement. These agreements henceforth allow persons or organizations, including municipalities, to manage the timber resources on public land in accordance with the principles of sustained yield. In the case of municipalities, no stumpage fees are charged for the harvesting of timber. However, on the other hand, projects must be self-financing. As we will see, one component of the intramunicipal lots initiative in the Abitibi-Temiscaming region involves such agreements.

4.2 Case study

Given the wide range of experience with community forestry in Quebec, we have selected eight initiatives that we believe are representative of the applications found. These initiatives can be divided into five main categories according to their common characteristics:

Type 1: Joint management organizations
- «Groupement forestier de l'Est-du-Lac Témiscouata»
- «Société d'exploitation des ressources de la Vallée (SERV)»

[7] Between February 1990 and June 1993, the Canadian Forest Service was known as the Department of Forestry (Forestry Canada).

Type 2: *Forest lands managed by aboriginal communities*
- Mistassini forest
- Obedjiwan forest

Type 3: *Tree farms managed by a community organization*
- the sharecropping component of the Lower St. Lawrence Model Forest
- Matane regional county municipality (RCM) tree farming project

Type 4: *Forest lands managed by rural municipalities*
- intramunicipal lots in Abitibi-Temiscaming

Type 5: *Urban woodlots*
-Lennoxville forest woodlot.

The case study is based on the project summaries in Appendix 2. In addition, Table 2 summarizes these initiatives through 15 key parameters for comparison purposes.

4.2.1 Analysis by type of initiative

Type 1: *Joint management organizations*

The «Société d'exploitation des ressources de la Vallée» and the «Groupement forestier de l'Est-du-Lac Témiscouata» were created in the 1970s with the aim of promoting the economic development of nearby rural communities, some of which were threatened by closure.

In their early years, these organizations focused their efforts on managing the woodlots belonging to their members. Subsequently, they expanded their range of activities to include the management of public forests (such as intramunicipal lots) and the timber processing sector. Today, this diversification has paid off by generating profits, which are reinvested in management operations in private woodlots.

Both organizations have the following features in common:

- they operate primarily in private woodlots in an area composed of several rural communities;
- local economic development is their main aim;
- although they are legally incorporated, their operating methods are distinctive and are closer to the co-operative model than the corporate model;
- they make an effort to ensure the participation of local residents who are not directly involved in their activities.

Table 2. Key parameters of eight community forestry initiatives in Quebec

Initiative	Groupement de l'Est-du-Lac	SERV de la Vallée	Waswanipi forest	Obedjiwan forest	Model forest (sharecropping component)	Matane RCM tree farms	Abitibi-Temiscaming intramunicipal lots	Lennoxville woodlot
Community	6 municipalities	14 parishes	Waswanipi	Obedjiwan	13 municipalities	8 municipalities	80 municipalities	Lennoxville
-population	8 500	17 000	750	1 600	7 300	5 400	60 000	4 100
-location	75 km from Riv.-du-Loup	20 km from Amqui	150 km from Chibougamau	140 km from Chibougamau	Southeast of Riv.-du-Loup and Rimouski	Southeast of Matane	Abitibi-Temiscaming region	5 km from Sherbrooke
Year established	1973	1974	1982	1985	1993	forthcoming	1994	1987
Status	operational	operational	operational	operational	model forest	project	pilot project	operational
Land								
-area	31 700 ha[a]	42 000 ha[a]	57 200 ha	800 ha	48 100 ha	8 000 - 16 000 ha	300 000 ha	190 ha
-tenure	private	private	Category 1 lands	Indian reserve	private[b]	intramunicipal lots	intramunicipal lots	municipal
-forest type	mixed	mixed	boreal	boreal	mixed	mixed	boreal	mixed
Forest mgt practices								
-multiple-use	yes	yes	yes	yes	yes	yes	yes	yes
-priority	timber	timber	timber	recreation, tourism	timber	timber	timber	conservation
-intensive[c]	yes	yes	yes	yes	yes	yes	to be determined	yes
-scale[d]	small	small	medium	small	small	small	to be determined	small
-annual allowable cut[e]	55 800 m^3	30 000 m^3	48 000 m^3	1 100 m^3	47 600 m^3	16 000 - 32 000 m^3	300 000 m^3	---
Management								
-independent[f]	yes	yes	yes	yes	yes	yes	yes	yes
-funding[g]	yes	yes	yes	yes	yes	yes	yes	yes

[a] Land under forest management.
[b] Two former seigneuries belonging to a forestry company.
[c] Forest management that goes beyond simply getting the harvested areas back in production.
[d] Scale of operations: small (<10 ha), medium (10-50 ha), large (>50 ha).
[e] Approximate values, particularly in the case of private woodlots and recent initiatives.
[f] Managed by community organizations.
[g] From higher levels of government.

Type 2: Forest lands managed by aboriginal communities

This category includes initiatives by the Waswanipi and Obedjiwan communities. Like many other native communities in Quebec, these two reserves are fairly isolated and face serious socioeconomic problems.

The Waswanipi forest is large (57 200 ha), allowing significant economic development in traditional sectors (hunting, trapping and fishing), as well as in timber production and processing[8].

In Obedjiwan's case, the forest is too small (800 ha) to support timber production activities that would have a significant impact on the community's economic development. Therefore, the aim of forestry operations is mainly to promote recreation and tourism, the harvesting of firewood for local consumption and the production of crafts. Since forestry operations have resulted a skilled local labour force, the community is able to carry out major silvicultural contracts outside the reserve. These contracts create 80 jobs a year on average, most of which are held by community members.

These two native initiatives have a number of features in common:

- the communities are isolated from major urban centres;
- the communities have major socioeconomic problems;
- the band council controls the communal management of the land;
- integrated resource management, based on identification of the population's needs and expectations, is increasingly being applied;
- major efforts are being made through training to create a skilled local labour force for work both on and off the reserve.

Type 3: Tree farms managed by community organizations

This third category includes the sharecropping component of the Lower St. Lawrence Model Forest and the Matane regional county municipality (RCM) tree farm project.

Sharecropping, or tenant farming, consists essentially in entrusting the management of a parcel of land to a tenant, or sharecropper, on the condition that the latter shares the revenues with the owner. In the case of the Lower St. Lawrence model forest project, around thirty sharecroppers

[8] The Waswanipi leadership is studying the possibility of setting up their own processing facility in the community.

have been allocated management units of roughly 1 000 ha. The units are located on private land, on two former seigneuries belonging to the Abitibi-Price Company.

The Matane RCM tree farm project, on the other hand, consists of a proposal to establish approximately 20 tree farms 400 ha to 800 ha in size. They are to be situated on intramunicipal lots within a 10 km radius of municipalities.

These two initiatives have a number of things in common:

- they are recent initiatives and are experimental in nature (trial period);
- the objectives focus on the development of rural communities;
- the organizations operate at a sub-regional scale level and involve many stakeholders;
- the forest management operations involve new types of land tenure in which property rights of the tree farmer are limited and are overseen by the community organization in charge of the project;
- forest resources are managed according to the principles of integrated resource management;
- initially, operating revenues come mainly from timber harvesting.

Type 4: Forest lands managed by rural municipalities

This fourth type of arrangement is typified by certain components of the intramunicipal lots initiative in the Abitibi-Temiscaming region.

In June 1994, the Abitibi-Temiscaming Regional Development Council («Conseil régional de développement de l'Abitibi-Témiscamingue» (CRDAT)) signed a special agreement with the Government of Quebec on the development of intramunicipal lots in the region. The agreement defines in general terms the framework for joint action in developing intramunicipal lots to promote regional economic development. This framework consists of four components, outlined below:

Component 1. Transfer of scattered lots to municipalities

- all scattered lots (units of 400 ha or less in a single block) currently under the jurisdiction of the «ministère des Ressources naturelles du Québec» (MRN) (Quebec Department of Natural Resources) are to be transferred to the municipalities;
- subsequently, the municipalities will be given the option of privatizing or leasing out the lots.

Component 2. Creation of a reserve of lots for agriculture and agroforestry

- blocks of lots (units of over 400 ha in a single block) with agricultural or agroforestry potential are to be transferred to the municipalities;
- subsequently, the municipalities will be given the option of selling or leasing the lots to developers in the private or non-profit sectors strictly for agricultural or agroforestry development.

Component 3. Establishment of forest management agreements with municipalities and Regional County Municipalities (RCMs)

- applies to blocks of lots (over 400 ha) with the greatest potential for forestry in the area covered under the agreement;
- in the short term, the lots are to be managed by single municipalities or groups of municipalities and, in the case of lots located on unorganized territory, by the RCMs under forest management agreements signed with the MRN;
- agreements are to be based mainly on timber resources;
- the MRN eventually intends to transfer these blocks of lots to municipalities.

Component 4. Establishment of development funds

- special development funds are to be established to develop public and private intramunicipal lots;
- this is a prerequisite for the preceding components;
- start-up funding is to be provided by the government;
- RCMs are to be responsible for managing the funds.

The various components will be implemented gradually over the next few years. Although we are not sure at present which specific management methods will be used for each component, we can make the following generalizations:

- this initiative corresponds to a regional framework for action involving mainly the region's RCMs, 80 municipalities (primarily rural), the regional development council (CRDAT) and various stakeholders from the forestry community;
- activities will be concentrated in the forestry, agricultural and tourism sectors;
- aside from promoting regional economic development, the aim of the agreement is to test a new method of decentralizing resource management on public lands;
- the tract of land in question (300 000 ha) is the largest of the eight initiatives in this case study;
- this land excludes land under timber supply and forest management agreements («contrats d'aménagement et d'approvisionnement forestier» (CAAF)), unlike the Matane RCM tree farm project;

- this initiative will probably result in the establishment of several types of community forests, including forests on Crown land managed by municipalities.

Type 5: Municipal woodlots

The aim of this fifth type of initiative is primarily to protect resources and enhance recreational and educational uses rather than to promote economic development through revenue generation and job creation. In the case of the Lennoxville woodlot, this type of approach is explained by:

- the small size of the forest (190 ha);
- the presence of ecologically rare and fragile sites (particularly peat bogs);
- the proximity to urban areas.

4.2.2 General observations

On the basis of the historical overview and case study, some general observations can be made about community forestry practices in Quebec. These observations, which are presented in outline form, can be divided into five general categories.

Types of community forestry

- A number of forms of forest management in Quebec are compatible with the concept of community forestry. We have identified five main types: joint management organizations, forest lands managed by aboriginal communities, tree farms overseen by community organizations, forest lands managed by rural municipalities and urban woodlots. The initiatives examined involve both public land (provincial, municipal and aboriginal) and private land (small woodlots and large private forests).

- The most recent initiatives are being undertaken at a regional or sub-regional scale, while initiatives established in the 1970s and 1980s are on a more local scale.

Objectives and approach

- Except for the Lennoxville forest, the initiatives studied are in rural communities grappling with serious socioeconomic problems such as high unemployment, low labour force participation rates, out-migration, and the threatened closure of parishes. Consequently, the primary objective of these initiatives is to stimulate local economic development, particularly through job creation. The Obedjiwan project is particularly significant in this respect: since the landbase in question is small, the work generated on the reserve has been used as a springboard to obtain major silvicultural contracts off the reserve.

- All the initiatives use an approach based on the principles of integrated forest resource management. However, timber production is the main priority in projects in which the landbase allows significant economic benefits to be provided.

Financial dependence

- The initiatives are funded by higher levels of government under forest management programs, the Green Plan, or start-up assistance programs. Except for the Lennoxville woodlot, all the initiatives in their present form depend on government funding for their survival.

- This situation is related to a combination of factors, particularly the degraded state of some forests owing mainly to previous management practices. As a result, these forests require expensive restoration treatments in the short term, and, in the medium term, the value of the standing timber remains low. Other factors such as sluggish timber markets, high transportation costs and the lack of adequate management tools that would allow the integration of biophysical, social and financial dimensions may also account for this financial dependence.

Management practices

- Intensive forest management practices are used, mainly on a small scale (less than 10 ha) and never on a scale greater than 50 ha.

Development

- Organizational structures, decision-making processes (including the level of local participation) and the type and level of activities have evolved over the years in response to both internal (or local) and external factors. An example of an internal factor is the change that has been observed in management strategies, over the years, as experience is acquired in a project (Bouthillier and Dionne 1995). External factors include timber markets and government policies.

5. COMPARATIVE ANALYSIS

The observations made in the case studies and historical overviews can now be put to use in a broad comparison of the initiatives in Ontario, Quebec and British Columbia. This comparative analysis is based on the information in Chapters 3 and 4 and will bring to light the main similarities and differences in the implementation of community forestry in the three provinces.

General objectives and context

- Generally speaking, initiatives in Ontario and Quebec take place in rural areas facing serious socioeconomic problems. Consequently, their primary objective is to revitalize, strengthen and develop the community. Although this objective also plays a role in the British Columbia initiatives, it appears to be less important, particularly in the cases of the North Cowichan and Mission projects, where the context has become urban in recent years.

- This difference in objectives is also reflected in related activities. Most of the initiatives in Ontario and Quebec are being used to foster the development of parallel activities such as silvicultural contracts, processing subsidiaries and training programs for silvicultural trainers. These activities generate additional economic benefits, including revenues that may be reinvested in forest management.

Decision-making structures

- The British Columbia initiatives are managed by municipalities with participation from a limited number of stakeholders. The Ontario pilot projects are also managed at the municipal level, but involve a greater number of local and regional stakeholders. In Quebec, decision-making structures vary considerably depending on the type of project. They are *local* in the case of aboriginal forests and the Lennoxville woodlot; *sub-regional* for joint management organizations, the Lower St. Lawrence model forest and Matane RCM tree farm project; and *regional* for the intramunicipal lots project in the Abitibi-Temiscaming region. Sub-regional and regional decision-making structures involve many local and regional stakeholders.

- The greater regionalization of decision-making structures in Quebec is linked to the decentralization of regional planning in the province. In 1979, the adoption of the Act respecting land use planning and development slowed the trend towards centralized regional planning of the 1960s and 1970s. Furthermore, in this new environment, the creation of regional county municipalities (RCM) has given local stakeholders a role in the government planning process (Southcott 1992). The regional development strategy established in 1991 and the formation of regional development councils (RDC) also helped to promote

decentralization. There are no comparable structures for decentralizing decision-making in British Columbia (D. Taylor, 1995, pers. comm.) and northern Ontario, where the Ontario pilot projects are located (Southcott 1992).

Forms of land tenure

- In the Ontario and British Columbia initiatives, mainly forms of public tenure are found, while in Quebec a wider variety of tenure systems occur, including private land and, in the case of new initiatives, mainly intramunicipal lots on Crown land. Furthermore, only the Quebec government has established a specific form of land tenure for community forestry.

Forest management approaches and practices

- Universally, the aim of forestry operations is to ensure integrated resource management. However, a priority is put on timber production in initiatives where economic development is the main objective. In most cases, significant educational and recreational components are also included.

- Generally, an intensive management approach based on the principle of sustained yield has been adopted. Operations are generally carried out on a small or medium scale.

Dependence on funding

- The initiatives depend on government funding to various degrees. The more recent the initiative, the greater the degree of dependence appears to be; a greater degree of dependence seems also to be associated with projects that do not involve parallel activities generating additional revenues.

6. ISSUES INVOLVED IN COMMUNITY FORESTRY

On the basis of observations made in the previous sections and of a review of the literature on community forestry, we will briefly identify and describe the opportunities and challenges faced in implementing this concept. These issues are divided into a number of different categories.

6.1 Opportunities

Flexibility

As this analysis has shown, community forestry can occur in a number of forms depending on the context in which it is being implemented. On municipal and aboriginal lands, community forestry corporations have a great deal of leeway, since they are not subject to provincial forest management standards that are often criticized for being too strict. The experience in British Columbia has shown that, on Crown land, the concept can be implemented so that corporations can choose the way they wish to manage the forest, provided they stay within a set of general guidelines. Therefore, determining the types of tenure, and corresponding partners' responsibilities and rights, is crucial.

In short, this flexibility provides an opportunity to find original solutions to specific problems.

Diversification of forms of tenure and creation of new partnerships

Many authors agree that there is an urgent need in Quebec and the rest of Canada to diversify tenure systems in public forests (Sanders 1992; Bouthillier 1992; Duinker et al. 1993). The main objectives of this would be to:

- develop a real market for forest resources by putting an end to processing companies' monopoly on forest production on Crown land (Tremblay 1991);

- allow rural communities to achieve the level of control they would like over the management of local resources by creating new partnerships with higher levels of government and other stakeholders with common interests (Duinker et al. 1991);

- take account of the many different needs, strengths and weaknesses of the parties involved and the specific characteristics of each area;

- take account of the fact that a variety of tenure systems and management approaches makes for a strong, stable and resilient structure (Sanders 1992).

Sustainability of resources

Community forestry corporations not only generally comply with the principle of sustained yield but they use more "gentle", smaller-scale management methods than those employed in industrial forestry. In this sense, community forestry would be less harmful to the environment. Duinker et al. (1991) warn, however, that as long as community forestry promotes more intensive forest management involving the greater manipulation of ecosystems, it may be undesirable from an environmental standpoint.

Taylor and Wilson (1993) maintain that community forestry corporations are in a better position to protect a broad spectrum of environmental and economic values. Local control would make these corporations more aware of the need to protect water supplies, wildlife habitats and aesthetic values.

Bouthillier et al. (1993) express the view that the creation of property rights to certain forest resources on Crown land might be a promising option to explore in terms of achieving sustainable development. Indeed, most community forestry initiatives are being carried out in public forests and, from an economic standpoint, entail the creation of property rights to forest resources. In this sense, they could contribute to the sustainable development of forest resources.

Improved social climate

The concept of community forestry satisfies a growing need among local communities to control their own natural and human resources (Dunster 1991a; Taylor and Wilson 1993; Bourgeois 1993).

The participatory aspects of community forestry make local populations responsible for managing the forest resources in their area. This reduces the chances of mistakes being blamed on scapegoats.

In the same vein, ensuring that various interest groups are represented democratically in the community corporation can reduce conflict between resource users.

Readers should also note that this type of forest management ensures that community land will not be used for private ends or profit (based on Tremblay 1991). This does not apply only to community managed public land since the tree farm and private woodlot forms of community forestry ensure to a certain extent that the property rights of farmers and woodlot owners will be tempered by collective management.

Economic development

Economic development is an inclusive concept, and must therefore be examined from a number of different angles; this is why we are addressing it at the very end of this section.

Local benefits play a key role in this regard because they are the primary objective of community forestry. In the case studies, we observed that community forestry initiatives had significant economic impacts on local communities, particularly in terms of job creation, revenue generation, and the development of recreational and educational infrastructures. In addition, some initiatives appear to stimulate economic diversification in such areas as timber processing, tourism, and job training.

Furthermore, many analysts see community forestry as having great potential in promoting local economic development. The main arguments put forward by these analysts include:

- community forests are large enough to support independent local economic activities (Bouthillier 1992);

- activities occur in shorter economic channels that favour local benefits and spin-offs;

- community forestry usually entails intensive forest management. Increased yields mean more economic development opportunities for the local community (Bouthillier 1992);

- the relatively greater flexibility of decision-making structures makes it possible to take advantage of new opportunities when they arise, thus maximizing the long-term benefits for communities (Dunster 1989);

- similarly, local control of the decision-making process makes it possible to react quickly to changes in the needs and values of the local population, thereby increasing local benefits (Taylor and Wilson 1993);

- according to Duinker et al. (1991), community forestry promotes stable local economic activity as management strategies aim for a fairly constant level of activity from year to year, which, in turn, encourages forestry entrepreneurs to set up businesses in small communities rather than operate out of large urban centres that are more suited to monitoring traditional industrial forestry operations;

- as community forestry is a form of community economic development, it allows the development of human resources that were previously idle or underused, makes it possible to mobilize volunteers, promotes community solidarity, and creates networks for dialogue and consultation (Groupe Éconov 1993).

From a government standpoint, community forestry initiatives are generally financed in part by government funding. However, these costs have to be compared with the costs of the current system. Bouthillier et al. (1993) point out that the management of public forests in Canada does not facilitate the growth of forests and does not put sufficient emphasis on values other than timber. Furthermore, the common land tenure in Quebec (as part of the timber supply and forest management agreements) limits property rights and creates a substantial administrative burden.

On the other hand, community forestry on Crown land usually results in separate timber production and processing functions. This helps to optimize the allocation of the various forest resources as no products are designated as priorities on an *a priori* basis.

From a different perspective, Dr J. Dunster (1991b) suggests that inaction in this area would probably prove very costly. In Dunster's view, the current forest management system in Canada leads to the economic dislocation of many communities and it would be more cost-effective for society to invest in productive initiatives than to assume the cost of economic dislocation. This echoes the demands, in the 1970s, of the «Groupement forestier de l'Est-du-Lac Témiscouata» and the «Société d'exploitation des ressources de la Vallée» that the government recognize the principle of cost-effectiveness to society, taking account of the savings achieved when community development organizations take responsibility for dealing with problems of rural communities (GRIDEQ 1983).

6.2 Challenges

Ability to take control

Bouthillier (1992) identifies four prerequisites for the emergence of community forest initiatives:

- the residents have to be concerned about the future of their community;

- the residents have to be aware of the dynamics of the forest and its various functions;

- some residents have to be capable of planning and overseeing the forest management activities;

- communities must have access to a local labour force made up of people with a wide range of skills and who want to work.

However, "in communities ravaged by economic decline and marginalization--where populations have shrunk considerably, skilled workers are few, and the residents have developed a passive wait-and-see attitude--the emergence of leaders is a long and arduous process, making it more difficult to create and organize initiatives to revitalize the community" (Vachon 1993).

In addition, the decentralization of the decision-making process could result in citizens diverting some of the community benefits for their own personal welfare (Hyde 1992). Therefore, it is crucial to establish and maintain democratic processes in community forestry corporations.

Financial viability

This is one of the most difficult issues to evaluate, particularly since it is one of the most poorly documented in the literature. Therefore, it would be premature at this time to make general conclusions about this issue. Financial viability appears to depend on a set of factors that may vary significantly from one project to another, including:

- the characteristics of the forest resources and markets;
- ability to integrate financial, economic and social considerations in the decision-making process;
- support from local and regional organizations;
- support from governments, which will be examined in a separate section as it represents an issue in itself.

It should be emphasized that an evaluation of financial viability must not be limited to the management of the community forest, but must also include related outside activities.

Zhang (1991) and Bouthillier (1992) both remark that, in community forestry, there is a strong connection between the costs and revenues involved in forest management. As the main beneficiaries of community forestry activities live near the resource, they are in a better position to appreciate what an asset the forest is and therefore to deal with the costs involved in its development.

Government support

The support of higher levels of government is essential for the establishment of community forests. According to Duinker et al. (1991), governments have to take an "adaptive muddling" approach in accordance with the two principles below:

1) an overall policy must be adopted to provide the unambiguous direction and stable context under which innovative and adaptive resource management can occur;

2) extensive experimentation with the concept must be supported to determine whether it works better than current approaches.

In addition, the government must balance local and regional interests with the overall public interest (Bourgeois 1993; Tremblay 1991). However, government intervention must not be used to control the initiatives, but rather to support them in their quest for innovative solutions to the challenges of forest development. Bureaucrats and political leaders must be willing to delegate responsibility and authority to local officials (Massicotte 1992).

Within this general framework, the government has to revamp the land tenure system to make room for community forests (Bouthillier 1992). To do this, it has to take account of existing agreements with forest resource users to ensure that major stakeholders, forestry companies in particular, are not alienated (Duinker et al. 1991).

The government must also make it easier to get projects off the ground by setting up training programs, providing tax incentives, and reducing or eliminating stumpage dues (Bouthillier 1992). Such assistance could also take the form of job creation programs and specific community forestry programs. Providing the necessary funds may be a problem, however, in today's context of fiscal restraint and deficit fighting.

Co-operation from the forestry sector

According to Duinker et al. (1991), one of the main obstacles to the establishment of community forests in Canada may be the resistance of some members of the forestry fraternity to new ways of implementing forest management.

The co-operation of the forest industry is essential, particularly in terms of providing technical support and timber processing markets (Duinker et al. 1991). The industry co-operation is also required to revamp the tenure system for public forests.

6.3 Summary of issues

An examination of the opportunities and challenges identified in Sections 6.1 and 6.2 shows that community forestry is a promising form of community development based on the management of forest resources. Bouthillier (1992) supports this finding, stating that community forests can fill the gap between small individually owned forest production companies and the big corporations that hold cutting rights on Crown land.

The opportunities offered by community forestry can be summarized as follows:

1) *flexibility*, which makes it possible to develop original solutions to specific problems;

2) *diversification of forms of tenure and creation of new partnerships,* both of which are, according to many analysts, prerequisites for truly modern forestry;

3) *sustainability of resources* linked to adherence to the principle of sustained yield; the use of gentle, smaller-scale methods; greater awareness of environmental values; and the creation of property rights to a range of forest resources;

4) *improved social climate* by recognizing rural communities' growing need to control their forest and human resources and by giving local residents greater responsibility within a democratic framework that does not allow community land to be used for individual purposes;

5) *economic development* at a local scale, which satisfies the main objective of community forestry, and for society as a whole.

The implementation of the concept presents a number of challenges that can be summarized as follows:

1) local communities' *ability to take control* of their forest resources;

2) *financial viability*, which depends on both internal and external factors;

3) *government support* to establish a framework for experimentation using an adaptive approach;

4) *co-operation from the forestry sector* through an open attitude toward new approaches to forest management and support for the implementation of projects.

CONCLUSION

Unlike most Canadian studies on this subject, our analysis shows that community forestry takes many different forms in Quebec. They include the management of forest lands by rural municipalities or aboriginal communities, tree farms overseen by community organizations, joint management organizations, and urban woodlots. More extensive research would probably have revealed other forms of community forestry.

The initiatives analysed involve different types of land, including both publicly and privately owned forests. Furthermore, in several cases, activities were undertaken outside the community forest boundaries. In general, the concept of community forestry appears to be associated not so much with the management of a specific forest tract but rather with a social movement toward local economic development.

In addition, our comparative analysis of initiatives in British Columbia, Ontario, and Quebec revealed a number of similarities and differences. The similarities include the management practices and a certain degree of dependence on government funding. The differences include the more regionally based decision-making structures in Quebec, due to the movement to decentralize regional planning in the province. This tendency towards decentralization also appears to have contributed to the emergence of recent community forestry initiatives in Quebec. Other reasons for the concept's expansion in the province include rural economic decline and out-migration as well as the growing demands from rural communities to manage their own resources. This context will no doubt lead to increased experimentation with various forms of community forestry in the coming years in Quebec.

The study has also allowed us to identify a number of opportunities and challenges involved in the implementation of the concept. The opportunities include the flexibility of the concept, its compatibility with the sustainability of resources, and its ability to promote economic development. The main challenges include rural communities' varying ability to take control of forest resources, obtaining support from governments and the financial viability of initiatives. In general, it can be concluded that community forestry is a promising way of managing forest resources to ensure sustainable development. However, it must be emphasized that community forestry is not a panacea for all the problems faced by communities with forest resource based economies. Rather, it must be considered as one of a number of options that may help to solve the problems faced by rural communities.

The applications and issues identified in the study provide relevant avenues for developing strategies to facilitate the implementation of the concept. Most of the issues were identified from actual experiences and therefore should prove very useful as a basis for future reflection on the implementation of community forestry in Quebec.

APPENDIX 1

SUMMARIES OF

COMMUNITY FORESTRY INITIATIVES OUTSIDE OF QUEBEC

North Cowichan Forest

The municipality of North Cowichan is located north of Victoria on Vancouver Island, near Duncan. The municipality acquired most of its 5 000-ha forest in the 1930s, when lot owners failed to pay their property taxes. The six-block forest is of the coastal type, which means that productivity is significantly higher than the Canadian average (Dunster 1989).

The original forest was harvested until the 1940s by clear-cutting and was then left to regenerate naturally. In 1946, the municipal forest officially became a forest reserve. The area was logged again during the 1960s and 1970s, this time by diameter-limit cutting. This approach resulted in the degradation of the forest and a decrease in the municipality's logging revenues. Acting on the recommendations of a committee set up to review the matter, the municipality decided in 1981 to focus on a new strategy of intensive management based on the principle of sustained yield. The municipality hired a forester to implement a detailed management plan with a recreational and educational component. The plan was structured to ensure a minimum level of activity each year, independent of fluctuations in government funding (Dunster 1989).

Under this new management framework, the forest was managed very intensively throughout the 1980s. Between 1982 and 1989, forest management activities costing more than $8 million were carried out, $6 million of which came from provincial and federal job creation programs. The municipality provided the remaining $2 million (Zhang 1991) out of a reserve fund it had accumulated mostly in the 1970s from logging revenues (D.J. Frank, 1993, pers. comm.).

Because of these efforts, the forest has been revitalized and has actually increased in value. In addition, local expertise in forest management has been developed. The forest operation has begun to generate a surplus, which is transferred to the municipality. This is the first time the municipality has obtained a financial return on its investments since the beginning of the forest management program. Previously, profits were reinvested in the management program or the reserve fund to support the program during difficult economic times. The reserve fund contained $456 000 in 1994 (Allan and Frank 1994).

A forest management committee appointed by the municipal council oversees the management of the forest. It is composed of three municipal councillors, three municipal administrators, and three foresters living in the municipality and meets every three months to set management objectives and monitor forestry operations (Allan and Frank 1994).

On the basis of a 1981 forest inventory, the maximum annual allowable cut was estimated to be 23 000 m^3. The actual cut, which is adjusted to reflect timber prices, ranges between 11 000 and 18 000 m^3 per year. The cut blocks measure between 0.5 ha and 12 ha in area (Allan and Frank 1994).

For several years, the forest management committee and the municipality's forester have worked on drawing up an integrated management plan for the forest's resources. On the basis of a forest inventory undertaken in 1994, the annual allowable cut will be revised in 1995. It will take better account of non-timber resources than the previous evaluation (Allan and Frank 1994).

From 1982 to 1990, forest management activities generated the equivalent of 350 person-years of employment (Zhang 1991). The newly created jobs helped the region maintain a forest-based labour force that had been hard hit by unemployment in the early 1980s (D.J. Frank, 1993, pers. comm.). The project and the availability of considerable job creation funds were therefore an excellent match.

It should be noted that this initiative is part of a strategy to promote regional economic diversification in the Cowichan Valley. In the 1980s, several municipalities in the valley decided their economies were too dependent on international wood market cycles and undertook a series of joint economic diversification initiatives. The forest and forestry operations were common themes of the initiatives, most of which were geared to tourism. Projects included a demonstration forest, ecomuseum concept, the Chemainu wall paintings, and the Duncan totem poles. The initiatives contributed significantly to the economic expansion of the region (Dunster 1989).

Today, forestry is still the main industry in the Cowichan Valley. However, its relative importance has decreased significantly, from providing 35% of jobs in 1979 to only 20% of jobs in 1990 (CFC for Cowichan Region 1993). This change is mainly attributable to the economic growth in nearby Victoria. The effects of this growth are being felt not only in the valley as a whole but also in North Cowichan, where the population (23 000 people) is currently growing. It is also contributing to greater local demand for the management of resources and activities other than timber (D.J. Frank, 1993, pers. comm.). Such activities include hiking, horseback riding, and harvesting edible plants (Allan and Frank 1994).

The factors contributing to the success of this community forestry initiative include (Allan and Frank 1994):

- the personal vision and support of several municipal councils, particularly during the time of Mayor Graham Bruce;
- the presence of a skilled local work force, paved road network, and timber markets;
- the benefits to the local population (recreation, education).

Mission Tree Farm Licence

Located 70 km east of Vancouver, the municipality of Mission has a population of roughly 30 000. The municipality manages 10 400 ha of coastal forest. Like the North Cowichan forest, part of the Mission forest was acquired when private land reverted to the municipality in the 1930s and 1940s. However, 87% of the current forest is Crown land (K. Allan, 1993, pers. comm.).

The municipality manages the forest through a tree farm licence similar to timber supply and forest management agreements (CAAF) in Quebec[9]. This form of tenure requires the holder to have at least 50% of the harvesting done by independent contractors (Zhang 1991).

Approximately 8 000 ha of the land is accessible productive forest. Most of the forest is second growth that grew up after a forest fire in the early part of the century. The average volume of these stands is between 500 and 700 m^3/ha. The annual allowable cut is 41 200 m^3 (K. Allan, 1993, pers. comm.).

Management objectives have changed over the years. Initially, the aim was mainly to create jobs, even if this required substantial subsidies. Ensuring a supply of timber to local sawmills was also an important objective (Allan and Frank 1994).

Today, the local sawmills no longer use the type of logs produced by the municipal forest. Job creation is still a priority, but must be justified in terms of cost-effectiveness. The municipality's current management objectives include (Allan and Frank 1994):

- self-financing forestry operations;
- educational and recreational activities for residents;
- a healthy environment, with an emphasis on biodiversity, fauna and water (a part of the forest supplies the municipality with its drinking water);
- economic and social stability in the community, mainly through job creation and the generation of revenues for the municipality.

The forest is managed by the municipality's forest department. This team is made up of seven people, including two foresters (K. Allan, 1993, pers. comm.). Most management operations (harvesting, silviculture, recreational infrastructures) are handled by local contractors. The population is periodically given the chance to make comments and suggestions to the municipal council on the management of the forest (Allan and Frank 1994).

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[9] The provincial government does not collect stumpage fees on the municipal portion of the forest.

Annual operating expenditures are around $2 million (Dunster 1989). Most of this amount comes from provincial and federal job creation programs. In addition, the British Columbia Ministry of Forests refunds a portion of the basic silviculture costs[10]. In fact, the municipality only covers about 20% of the operating costs (Zhang 1991).

Over the last 35 years, approximately one million cubic metres of wood have been harvested and three million seedlings planted. Over the last decade, precommercial thinning has been carried out on 600 ha and 200 ha have been pruned (Allan and Frank 1994).

Between 1958 and 1978, the forest generated an average annual profit of $50 000.. Since 1979, the municipality has had to pay stumpage fees on the Crown land portion; previously it paid only land rent. Between 1979 and 1989, forestry operations generated an average annual profit of $144 000, despite five years of deficits in the early 1980s. The deficits were caused by the new system of stumpage fees and sluggish markets. Operating surpluses have enabled the municipality to establish a large reserve fund that is used to support the project in lean years and for capital investments (Zhang 1991). In 1995, over $1 million will be provided to the municipal council for municipal infrastructures (Allan and Frank 1994).

Over the past thirty years, forest management has directly created some 20 full-time jobs and many part-time jobs. These jobs have in turn had a multiplying effect in stimulating the local economy. Furthermore, multiple-use management has made it possible to provide a variety of recreational and educational activities for the local population and people from other parts of the province (Zhang 1991).

Over the past decade, Vancouver's economic prosperity has had a significant effect on the dynamics of the community. More and more people who work in the Vancouver area are settling in Mission and its population is currently growing by 4 to 5% a year. This growth in population is affecting the public's expectations of the forest. In response to these changes, forest managers will be putting more emphasis on recreational and educational activities (K. Allan, 1993, pers. comm.).

According to Allan and Frank (1994), the main factors that have contributed to the success of this initiative include:

- the determination of a group of residents, local administrators, and business people during the early years of the project;

[10] The Canadian Forest Service, Pacific Region, also contributed to the management of the municipal portion of the forest through the municipal component of its Small Scale Forestry Program.

- the fairly well-balanced structure of the stands and the proximity of the forest to processing markets;
- the lack of serious criticism of the project due to the intensive silviculture treatments that have numerous benefits and minimize negative aesthetic effects;
- related to the previous point, the support of local administrators and politicians;
- the form of tenure (tree farm licence), although not designed for community forestry, provides an adequate framework that allows access to a large enough landbase that sustained yield management can be practised.

Other factors include government subsidies, mainly from provincial and federal job creation programs.

100 Mile House Woodlot Licence

Except as otherwise noted, the information on this initiative was provided by R. Ostby, District Manager, 100 Mile House Forest District, Ministry of Forests (1993, pers. comm.).

The village of 100 Mile House is located some 200 km northwest of Kamloops, British Columbia. At the suggestion of local officials in the Ministry of Forests, the village applied for a woodlot licence, a form of tenure of publicly owned forests in British Columbia (J. Castonguay, 1993, pers. comm.). In 1988, the municipality was granted management rights to roughly 400 ha of nearby forest land, the maximum area that could be obtained at that time under a woodlot license.

The forest consists primarily of stands of Douglas-fir, but also includes pine and spruce. The Douglas-fir stands were partially harvested in the 1960s. They were also damaged by a spruce budworm outbreak.

The municipal council manages the forest according to the recommendations of a special committee made up of council members, representatives of the Ministry of Forests, and officials from two local forestry companies. There are no foresters assigned to the project.

The general policy directions set out in the management plan are timber production, the management of a demonstration forest, recreational activities, and habitat conservation. The annual allowable cut is 870 m^3. Because the allowable cut is low, forest operations are only carried out every two to three years by contractors.

Between 1988 and 1993, the municipality carried out a number of silvicultural operations on more than 90 ha of land. It also developed 8 km of snowmobile trails, a network of forest roads, and several nature interpretation trails in the demonstration forest.

Most of the funding for management activities comes from harvesting revenues, which are paid into a reserve fund set aside strictly for this purpose. The municipality also obtained more than $12 000 in grants under the 1985-1990 Canada-British Columbia Forest Resource Development Agreement. The grants were used to manage the demonstration forest and carry out a precommercial thinning project.

The benefits to the local population include an easily accessible site for recreation and nature education, and the creation of jobs related to forest management and timber processing. In addition, the community can take pride in the success of the project and the interest it is generating.

To date, more than 480 woodlot licences have been issued in British Columbia. Most of the woodlots are operated by individuals. Apart from 100 Mile House, only one other municipality, Clinton, has a licence (J. Castonguay, 1994, pers. comm.).

Geraldton Pilot Project[11]

The town of Geraldton is located 260 km northeast of Thunder Bay. The town was settled when a gold mine opened in 1931. Following a period of prosperity, the town became a service centre for the small communities in the surrounding area. During the 1960s, most of the mines shut down, leading to the economic decline of the town and a decrease in the population, which dropped from 3 600 in 1964 to 2 500 in 1988 (Zhang 1991).

The Conservation Council of Ontario (CCO), a Toronto-based association of provincial organizations concerned with environmental issues, played an important role in setting up the pilot project. Southcott (1992) gives a detailed account of how the project was initiated. The following paragraphs outline the main steps in that process based on Southcott's account.

In 1987, the CCO began to study the concept of community forestry. The council's premise was that communities in northern Ontario could diversify their economies and ensure long-term economic stability by the "wise" management of their forests patterned after the North Cowichan model. Recognizing the need for a feasibility study, the CCO approached the municipality, which set up a committee to study the issue. The committee approved the idea of the feasibility study and hired a consultant, Julian Dunster, to carry it out. Dunster submitted his report in 1989, which recommended that a community forest be established in Geraldton. The town presented the project to the residents at public meetings, and several expressed reservations about the project. Despite the opposition, the town asked the Liberal provincial government of the day for funds to plan the establishment of a community forest. The first request was turned down but the town continued to lobby the province. In 1991, the newly elected NDP government announced the creation of the Ontario Community Forestry Project and, in 1992, confirmed that Geraldton had been selected for a pilot project. According to Southcott (1992), the efforts of the CCO and the town were largely responsible for the creation of the Ontario Community Forestry Project.

The Geraldton community forest covers 65 400 ha. Most of the land is owned by the province. It includes a small provincial park (McLeod), which is used mainly for camping. Cutting rights are held by Kimberly-Clark through a timber licence. Under this form of tenure, the company harvests the timber, but the Ontario Ministry of Natural Resources is responsible for basic silvicultural activities[12].

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[11] As part of this study, four representatives from Quebec visited Geraldton in October 1993.

[12] In April 1995, a new system of tenure will be instituted in Ontario.

For the term of the pilot project, the ministry delegated its silvicultural responsibilities to the community forest corporation[13]. Kimberly-Clark agreed that the corporation could harvest timber through commercial thinning and certain types of cutting, including salvage cutting (K. Schmidt, 1993, pers. comm.).

A variety of wildlife can be found in the forest, including moose, black bears, martens, wolves, several species of fish and over 200 species of birds. Some sectors are set aside for recreational activities such as snowmobiling and cross-country skiing. In addition, unique features like historic and archaeological sites and wildlife habitats are protected. Waterways make up a considerable proportion of the area (Haavisto 1993).

A steering committee separate from the town council is responsible for the project. The committee, which was established in 1988, has changed considerably over the years. In the fall of 1993, the committee had 14 members and was divided into three separate entities: an administrative committee elected by local residents, a technical team responsible for drawing up and implementing the management plan, and a team responsible for funding. Local residents are also represented on the committee (Kelly 1992).

The structure of the committee was about to change, however. The committee has officially become a commercial venture and has four appointed and six elected members. The appointed members include the mayor, the town manager, a representative of Kimberly-Clark, and a representative of the Ontario Ministry of Natural Resources. The chair, vice-chair, and treasurer are selected from among the appointed members. The six elected members come from the local population (K. Schmidt, 1993, pers. comm.).

The project's forester becomes the project manager and in that capacity is responsible for all operations, including financial matters. The forester supervises a forest technician and a team of forestry workers (K. Schmidt, 1993, pers. comm.).

The general policy directions set out in a preliminary version of the action plan submitted by the steering committee are to continue timber harvesting, manage all forest resources on the basis of sustained yield, promote natural regeneration wherever possible, and study and inventory other forest uses and resources with local development potential (Haavisto 1993).

From 1993 to 1995, the community forest corporation's priority was to implement silvicultural activities. The objective was to produce tangible results as quickly as possible, particularly in

[13] As indicated in Section 3.1, the Ministry of Natural Resources is the ultimate authority regarding forest resource management.

terms of job creation, revenue generation, silvicultural treatments, and training. The wildlife component will be a focal point in the second phase (K. Schmidt, 1993, pers. comm.).

According to preliminary data obtained in the autumn of 1993, the forest will be managed using an intensive approach by creating a mosaic of stands of various age classes based on an average rotation of 60 years. The estimated annual allowable cut is 41 000 m^3, 75% of which is softwood. However, during the pilot project, the plans are to harvest only about 12 000 m^3 per year by using the alternative methods of cutting described above. During this period, training a local labour force will also be a priority (K. Schmidt, 1993, pers. comm.).

Funding for the project is guaranteed until March 1995, at which time its economic viability will be evaluated by officials from the Ontario Community Forestry Project. Program grants from 1992 to 1995 will total approximately $1.1 million, or an average of $350 000 annually. The town will contribute about $150 000, or $50 000 annually. The project will generate commercial revenues of approximately $350 000 from timber harvesting, outside silviculture contracts, and a training program for silviculture trainers organized by the project (K. Schmidt, 1993, pers. comm.).

Zhang (1991), in his study of the economic viability of community forestry in Canada, reviewed the Geraldton project when it was still in the planning stages and had not yet been chosen for the Ontario Community Forestry Project. According to this study, which of necessity is based on hypothesis rather than fact, the project could generate 30 to 38 direct and indirect jobs for the community. Given Geraldton's small population, this would be enough to halt the town's demographic decline. Zhang also estimated that forest management could result in profits of about $120 000 a year.

In addition to forest management activities, the project includes some other socioeconomic initiatives. Foremost among these are the training program and outside silviculture contracts, both of which were mentioned earlier. There are also plans to set up a demonstration forest, an environmental education and interpretation centre, and a training centre for silviculture workers focusing on the intensive management of boreal forests. The possibility of building a heating plant fuelled by wood chips is also being considered. The plant would "recycle" a portion of the community's energy costs and make some silvicultural activities more profitable (Kelly 1992).

The local population has yet to feel the full impact of the community forest project because 1993 was the first year of implementation. However, a number of short-term benefits can be identified, including the creation of local jobs in managing the forest and carrying out silviculture contracts, the establishment of a skilled local labour force and the fact that the public is satisfied with its involvement in an integrated forest resources management process. The more substantial economic benefits will be felt over the medium term (Kelly 1992).

Finally, it should be noted that the people who initiated the Geraldton project spent almost five years building a consensus in the community in favour of the project (H. Donohue, 1993, pers. comm.). It is important not to underestimate the effort it can take to establish local support for a project of this type.

Elk Lake (Township of James) Pilot Project

Unless otherwise indicated, the information on this pilot project has been taken from Elk Lake Community Forest (no date).

The small Ontario community of Elk Lake has a population of 600. It is located about 230 km northwest of North Bay. The local economy is based almost entirely on forestry and tourism. The town has a large sawmill (100 employees), three major logging contractors, several commercial outfitters, and other businesses related to forest resources. However, the economy has been stagnant for the past two decades, which can be attributed mainly to a 1973 claim by the Temegami Indian band to approximately 75% of the land in the Elk Lake management unit. The land claim led to a moratorium on mining operations and exploration and other types of development in the area.

The community set up its community forest project in an effort to ensure economic viability for itself and other nearby small communities, particularly Gowganda (population 200) and Matachewan (population 300). In 1992, the Ontario Ministry of Natural Resources selected Elk Lake as one of the four pilot projects in the Ontario Community Forestry Project.

The Elk Lake community forest covers over 470 000 ha. The 376 400 ha of productive forest land consist primarily of the Elk Lake Crown land management unit (355 000 ha), portions of two provincial parks (17 900 ha), and an Indian reserve (3 000 ha). As already noted, most of the territory is claimed by the Temegami Indian band. In 1993, the band and the provincial government entered into negotiations on a treaty on the joint management of the territory. The success of the project is subject to the land dispute being settled.

The Elk Lake community forest is a boreal forest. The main commercial species are jack pine, black spruce, white spruce, trembling aspen, and white birch. The annual allowable cut is estimated to be 491 000 m^3, 56% of which is softwood. The forest is a major source of supply for five regional forestry companies.

In addition, there are some 25 forest-based tourism businesses in the region. Tourists and local residents use the forest for a variety of recreational activities, including snowmobiling, cross-country skiing, fishing, camping, and canoeing. Trapping (mink, beaver, fox, wolf) has been carried out in the area for many years. However, the anti-fur lobby has had an adverse effect on trapping as an economic activity.

The Ontario Ministry of Natural Resources grants cutting rights for the management unit under a timber licence. Under this system of tenure, basic silvicultural activities (geared toward the

establishment of regeneration) remain the responsibility of the ministry[14] (J. Orparra, 1994, pers. comm.).

In early 1994, the OMNR had still not delegated control of the forest resources in the area to the community forest partnership committee. The committee (the composition of which is described below) will first have to determine the type and level of powers it would like to have delegated to it with respect to zoning and the planning and implementation of forestry activities. The committee must also demonstrate to the OMNR its expertise in forest management. The outcome of the land claim negotiations with the Temegami band will also have an effect on any delegation of powers to the community forest partnership committee.

The partnership committee has 15 members representing the municipalities of Elk Lake, Gowganda and Matachewan; the Teme Augana Anishnabai Nation; various interest groups from the business, education, tourism, forestry, and mining sectors; the OMNR; and environmental and labour organizations. The committee meets twice a month and the public is invited to attend its meetings.

The partnership committee has hired a consulting forester to implement the pilot project. The forester is assisted by forestry technicians employed on a seasonal basis. The forester produced the pilot project plan in consultation with the partnership committee. The plan sets out four main policy directions:

- obtain local control of the forest resources in the area;
- accelerate the application of the principles of sustainable forestry;
- maintain or enhance the economic viability of local communities;
- ensure continuity in the project when the pilot project phase has been completed.

In order to implement the general policy directions, six activities were approved in March 1993:

1. Take an inventory of the natural resources in the area, mainly through a review of literature on known sites.
2. Conduct an aerial survey to gather data on moose habitat.
3. Conduct a feasibility study on the management of forest resources by drainage basin. A consultant will use a geoforestry information system to assess the relevance of using the technology in forest management.
4. Study the impact of other forest users in order to develop a process for evaluating and resolving conflicts.

[14] Beginning in April 1995, a new tenure system will be instituted in Ontario.

5. Analyse current forest resource inventories in order to get a better understanding of the area.
6. Identify sites in which there are regeneration problems.

These projects will do much to help compile a substantial part of the information needed to prepare a new forest management plan for the area. The plan should go into effect on March 31, 1996. With this goal in mind, two representatives of the pilot project serve on the committee responsible for co-ordinating the development of the plan.

In addition to the activities referred to above, the pilot project includes a number of socioeconomic initiatives. Elk Lake participated in the training program for silviculture trainers initiated by the Geraldton group; the aim is to develop a local forestry labour force that will be able to work on projects both inside and outside the community forest. In addition, a demonstration forest will be established and the team will participate in developing a course on forest uses and resources for local students. The demonstration forest and course will be funded in part through the forestry component of the Canada-Ontario Subsidiary Agreement on Northern Ontario Development.

The budget for the first two years of the pilot project (1992-1994) is more than $688 000, of which almost $616 000 comes from the Ontario Community Forestry Project and $72 500 comes from the municipality (P. Tufford, 1994, pers. comm.). These funds cover the cost of project management and administration as well as the cost of implementing the various activities.

Like the other pilot projects in the Ontario Community Forestry Project, the viability of the Elk Lake project will be evaluated by the Ministry of Natural Resources at the end of the test period, in March 1995. In the meantime, a number of major issues will have to be resolved, in particular the land claim and the degree of control over resources to be exercised by the partnership committee.

APPENDIX 2

SUMMARIES OF

COMMUNITY FORESTRY INITIATIVES IN QUEBEC

The «Groupement forestier de l'Est-du-Lac Témiscouata» and the «Société d'exploitation des ressources de la Vallée»

The creation of these two organizations in the early 1970s and their development up to the early 1980s has been described in detail by the «Groupe de recherche interdisciplinaire en développement de l'Est-du-Québec» (GRIDEQ 1983). Therefore, unless otherwise indicated, the information in this section comes from that source.

The «Groupement forestier de l'Est-du-Lac Témiscouata» was incorporated in 1973, when this group venture replaced the forest committee of the «Coopérative de développement agroforestier de l'Est-du-Lac». The latter organization, an agroforestry development co-operative dealing with a wide range of resources and with a number of affiliated organizations, was created by the residents of the communities of Saint-Juste, Auclair, and Lejeune, located east of Lac Témiscouata near the New Brunswick border. To identify the area involved, which covers roughly 39 000 ha, the communities agreed to use the initials JAL, which stand for the three largest parishes in the area. Today, the operational territory of the group venture includes the municipalities of Saint-Juste-du-Lac, Notre-Dame-du-Lac, Dégelis, Auclair, Saint-Michel-du-Squatec and Saint-Godard-de-Lejeune, which together have a population of around 8 500.

The «Société d'exploitation des ressources de la Vallée» (SERV) was incorporated in 1974 after residents put a great deal of pressure on the government to support the development of private forests. It operates in an area covering 14 parishes in Matane and Matapédia counties, with a total population of around 17 000.

These two community development organizations were established with the primary objectives of:

- fighting against the closure of parishes;
- ensuring the rational and integrated development of local resources, particularly private woodlots;
- creating local jobs;
- ensuring the full participation of local residents.

Although these organizations are legally incorporated, they have adopted distinctive operating methods that are closer to those used in the co-operative movement than in business. Shares can be purchased not only by woodlot owners but by employees and, in the case of SERV, by other people from the community. The principle of "one member, one vote" is used in general meetings.

In accordance with their objectives, these organizations were determined from the very beginning to ensure the participation of the members of the community not directly involved in their ventures. Through various activities such as information bulletins and public meetings to discuss general issues, residents are kept informed of the organization's activities and made aware of the problems involved in locally managed regional development.

During the early years, these groups focused their efforts on developing woodlots owned by members. Subsequently, they expanded their activities to include timber processing and the management of public forests (mainly intramunicipal lots). In the case of SERV, diversification also included the production of tree seedlings, agriculture (sheep raising and slaughterhouse), and tourism (farm vacations and controlled moose hunt in the Faribault sector, among other activities). However, beginning in the mid-1980s, SERV concentrated its efforts in the forestry sector and withdrew from its other activities (G. Michaud, 1994, pers. comm.). In JAL's case, organizations other than the joint venture were created to develop resources in the agricultural, tourism, recreation, and other sectors.

Readers should note that, during their first decade, both organizations had stormy relations with the government involving numerous conflicts and confrontations. Their demands at this time were primarily that:

- the government clearly state its intention to promote rural development;
- the government recognize the principle of cost-effectiveness to society; that is, that it take account of the fact that it would save money by allowing community economic development organizations to deal themselves with the problems of rural communities;
- the government replace its sectoral approach to development with an integrated approach to resource management, particularly with respect to program eligibility criteria.

In 1994, SERV had over 1 200 shareholders, including roughly 650 woodlot owners, 300 workers (often woodlot owners themselves), and 250 other shareholders. Its activities (including its timber processing subsidiaries) are worth around $8 million annually, of which over 70% comes from the forestry management sector (Financial Assistance Program for the Development of Private Woodlots, Eastern Quebec Forestry Development Program or the Eastern Plan, and activities on Crown land) (G. Michaud, 1994, pers. comm.).

In addition, SERV participates in various community economic development schemes including projects to formulate a forestry development strategy for the Matapédia regional county municipality (RCM), to set up tree farms in the Matane RCM and to institute integrated forest management on certain intramunicipal lots in the region (G. Michaud, 1994, pers. comm.).

Currently, the «Groupement forestier de l'Est-du-Lac Témiscouata» has around 400 shareholders, including 75 workers. Approximately 70% of the private forest in the area is included in one of two private woodlot assistance programs administered by the organization, up from only 20% in the early 1980s (G. Lavoie, 1994, pers. comm.). Furthermore, the group is one of the four sponsors of the Lower St. Lawrence model forest, an initiative examined in a subsequent section.

The group venture's forest management activities generate approximately $4 million a year (including silvicultural operations in public forests). The group venture also owns shares in a local sawmill (G. Lavoie, 1994, pers. comm.).

Waswanipi Forest

Unless otherwise noted, the information in this section is taken from Del Degan, Massé et Associés (1994).

The Waswanipi Cree community is located 150 km west of Chibougamau and 140 km northeast of Lebel-sur-Quévillon. This puts it halfway between two major regions of Quebec, the Abitibi and Lac-Saint-Jean regions.

The community's lands cover some 600 km^2 and administratively and legally fall under two land regimes: Category 1A and Category 1B lands as established in 1975 under the James Bay and Northern Quebec Agreement. Category 1A lands cover 365 km^2 and are under federal jurisdiction; Category 1B lands cover 233 km^2 and are under provincial jurisdiction. The community has exclusive timber harvesting, hunting, fishing, and trapping rights on this territory.

The current village of Waswanipi was built in 1976. The demographic data available indicates that the current population is slightly over 1 000 people, 750 of whom live on the reserve. The population is young, with over 60% of the inhabitants under 35 years old.

The average family yearly income is less than $20 000, with two thirds coming from transfer payments. The traditional way of life is still followed by many community members and trapping, hunting, and fishing are widely practised. However, a growing portion of the active population has become integrated in the modern wage economy, in the service and commodity-producing sectors, particularly in forestry.

Waswanipi's 57 200-ha forest is the second largest aboriginal forest in Quebec. The boreal forest is dominated by softwoods, particularly black spruce, which accounts for 75% of the total volume. Generally mature or even overmature stands are found, with age classes over 90 years clearly dominating. The many waterways cover around 22% of the territory.

Various enterprises more or less directly under the control of the band council have been set up to develop the resources present and create job opportunities. In the forestry sector, Mishtuk Corp. has been harvesting timber and selling it to processing plants since 1982. Between 1982 and 1993, an average of 55 000 m^3 was harvested by the company every year. In 1984, harvests were reduced to 48 000 m^3 in response to the most recent evaluation of the annual allowable cut.

Harvesting operations are performed mainly by contractors, who provide the required machinery. In recent years, large-scale clearcuts have been discontinued in favour of a mosaic of smaller cuts no larger than 50 ha, with advance regeneration protected.

The corporation employs ten or so workers, three of whom are full time. Based on the volume harvested, its sales can be estimated at around $1.5 million a year.

Since 1985, the A-Pit-See-Win co-operative has been planning and carrying out silvicultural operations on and off the reserve. On the reserve, it treats close to 400 ha annually, mainly by restoring deforested sites (site preparation and planting) and, increasingly, by stand tending (precommercial and commercial thinning). The 1994-1995 budget for on-reserve silvicultural activities is $350 000, of which $218 000 comes from the Forest Management Program for Indian Lands (FMPIL) administered by the Canadian Forest Service. The co-operative also carries out silvicultural contracts off the reserve, which averaged $39 000 annually between 1986 and 1992.

The co-operative not only employs a forester year round, but some forty other employees on a seasonal basis, including three forest technicians and five trainees (G. Germain, 1995, pers. comm.). Almost all the employees are band members. This experience has allowed the co-operative to develop techniques adapted to the Waswanipi context and a skilled local labour force.

The first forest management plan for Waswanipi was drawn up by Rexfor in 1983. In 1986, the A-Pit-See-Win co-operative formulated a five-year silvicultural plan with the aim of returning clear-cut areas and burns into production. A forest inventory was carried out in 1989 to determine the annual allowable cut.

In the past, forest management operations were planned with little consideration for non-timber resources. Improvements have been made in this area during the last few years due to pressure from users of other forest resources, particularly tallymen (trappers), who manage catches according to Cree custom.

The finishing touches were being put on an integrated resource management plan in January 1995 to take better account of non-timber forest resources. The plan is the result of several years of consultations with community members. Its primary objective is to integrate wildlife conservation and management with timber production, in order to minimize the impact of timber production activities on the environment. The plan also takes into account the needs and expectations expressed by community members concerning recreation, culture and ancestral sites.

In addition, community leaders are studying the possibility of building their own processing plant on community land. The sawmill would have a 128 000-m^3 capacity, of which 48 000 m^3 would come from the Waswanipi forest and 80 000 m^3 from Crown lands (Category 2 lands) adjoining the reserve (G. Germain, 1994, pers. comm.).

Obedjiwan Forest

Unless otherwise noted, the information in this section comes from documents on the Forest Management Program for Indian Lands (FMPIL) administered by the Canadian Forest Service.

The Obedjiwan reserve is located on the north shore of the Gouin Reservoir, 143 km south of Chibougamau. This Atikamekw community has a population of over 1 700 inhabitants, of which approximately 1 600 live on the reserve (band register as of 31-12-94). Traditional activities are still extensively practised, including hunting, fishing, crafts, and various cultural activities on the land. However, according to the information available, only 23% of the population aged 15 years and older were active in 1986 (working or on unemployment insurance).

The reserve covers 927 ha, 802 ha of which is accessible productive forest. The boreal forest is composed mainly of spruce, balsam fir, birch-balsam fir, and poplar-softwood stands. Most softwood stands are young, while mixed stands tend to be mature. The forest has been cut on a haphazard basis over the years and, in 1987, a major windfall occurred.

Like the Manouane and Weymontachie Atikamekw communities, Obedjiwan participated in FMPIL from its very beginnings in 1985. Under the auspices of the Atikamekw Nation Council, the three communities set up a joint forestry service in charge of forest management activities. The service handled forest management activities on the reserves from 1985 to 1991, but was required to report to the Obedjiwan band council in the case of forestry operations affecting the community.

The first management plan for the Obedjiwan forest was drawn up in 1986. It had two main objectives:

- to restore disturbed sites by carrying out, among other treatments, residual removal followed by reforestation;
- to use silvicultural activities to acquire expertise in forestry.

Under this plan, the annual allowable cut was estimated to be 1 360 m^3.

In 1991, Obedjiwan withdrew from FMPIL for two years. Apparently, the problem dated back to the policy directions espoused in the management plan, which had not been formulated with input from the community. Some residents did not agree with the need for some silvicultural operations carried out by the technical team, particularly residual removal operations, as the lack of markets made it impossible to sell the hardwood harvested. In addition, some community members believed that the natural windfall that had occurred was a clear-cut.

The community rejoined FMPIL in 1993, but with a different management structure. The new Obedjiwan forest service was to be in charge of forest management, including training and communication. The team is made up of three people, including two forest technicians and a native trainee.

In 1993, the forest service drew up a five-year plan (1994-1995 to 1998-1999) of forest activities in the community. The overall policy directions for forest management were defined in greater detail and expanded to include additional aspects. The new policy directions include:

- putting a priority on activities with objectives other than producing timber for processing markets, particularly tourism and recreation, the production of firewood for local consumption, and crafts;
- limiting timber harvesting to stand tending operations, the harvest of overmature stands, salvage cutting (windfall or fire), and avoiding clear-cutting (the annual allowable cut was reduced to 1 100 m^3);
- integrating forestry operations with a labour force training plan;
- planning for the future review of the forest management plan to reflect the community's needs and expectations;
- keeping the community well informed of forest management activities.

The 1994-1995 budget for forest management activities on the reserve (silvicultural treatments, technical team, training, etc.) was $77 200, with $69 900 from FMPIL. During this period, silvicultural work generated seven seasonal jobs for the community.

Readers should note that the community's landbase is not large enough to support significant economic activities. In this context, an important spin-off of the management program is the creation of a skilled labour force that can work off the reserve. From 1992 to 1994, the Obedjiwan forest service carried out off-reserve silvicultural contracts worth approximately $650 000 per year. These contracts generated an average of 80 seasonal jobs per year, held mostly by community members.

The forest service also carries out other activities, including a number of contracts, that are not related directly to the expertise acquired under FMPIL. In financial terms, these activities were more lucrative than the off-reserve silvicultural contracts mentioned above (S. Mathieu, 1995, pers. comm.).

Lower St. Lawrence Model Forest

Unless otherwise indicated, the information in this section is taken from two sources: Forêt modèle du Bas-Saint-Laurent (1994) and CERFO (1994).

The Lower St. Lawrence Model Forest is a non-profit organization established in February 1993 to manage a model forest in the Lower St. Lawrence region (A Lived-in Forest, Model for Sustainable Development). It is one of ten such projects in the Network of Model Forests developed under the federal government's Green Plan. The Canadian Forest Service and several community organizations are also participating in the implementation of the project.

The model forest is located in the regional county municipalities (RCM) of Témiscouata, Rimouski-Neigette and Métis. It covers an area of 112 600 ha, 57% of which belongs to 700 owners of small private woodlots within the boundaries of the «Groupement forestier de l'Est-du-Lac Témiscouata». The other 43% of the model forest consists of private land, more specifically the former Nicolas-Rioux and Métis seigneuries, large tracts that belong to Abitibi-Price.

Around twenty municipalities are located in this territory, both within the area managed by the group venture and along the edges of the two former seigneuries. In 1991, the area had a total population of 15 760, including 7 320 people living on the border of the seigneuries (C. Lamontagne, 1994, pers. comm.).

The first phase of the project is scheduled to last four years (1993-1997). The project has a wide range of objectives, including:

- testing two forms of private woodlot management, the forestry group venture and tree farms allocated to sharecroppers;
- ensuring the sustainable development of the forest resources in the area;
- halting emigration to achieve a stable population base in the region and increasing local residents' standard and quality of living;
- testing mechanisms for consultation and co-operation between partners and local residents.

The group venture form of forest management is represented in the project by the «Groupement forestier de l'Est-du-Lac Témiscouata». The expected benefits of the project include an increased number of woodlot owners participating in management contracts, the consolidation of forest land and agroforestry operations, and the increased use of integrated forest resource management.

Sharecropping consists essentially in handing over a tract of rural land to a tenant (or sharecropper), who undertakes to manage it and share the revenues with the owner. In the case of the tree farm component, thirty or so farmers are being assigned management units of

approximately 1 000 ha each. These farms are located on the two former seigneuries. Under the project, the viability of the tree farms as production units under a system of integrated resource management must be demonstrated in the medium term.

Each farmer is independent but is given the technical support required to develop his or her business by the model forest's technical team. In addition, a tree farmers' co-operative has been set up in each of the two former seigneuries to manage wildlife habitats and other non-timber resources, and to provide certain services to farmers.

A board of directors oversees the management of the model forest corporation. It is composed of representatives of the four initial sponsors of the project: the «Syndicat des producteurs de bois du Bas-Saint-Laurent» (a wood producers' association), Abitibi-Price, Université Laval's department of forestry and geodesy, and the «Groupement forestier de l'Est-du-Lac Témiscouata».

In addition, a consultation mechanism has been established to ensure that the activities undertaken meet the expectations of the community and the various local and regional organizations. It consists of a partners' committee and four stakeholders' committees representing various socioeconomic aspects of the forest.

The partners' committee consists of the representatives of nearly 30 organizations in the fields of education, timber processing, forest resource management, wildlife management, recreation, water resource management, technology transfer, applied research, municipal administration, economic development, and environmental protection.

The four stakeholders' committees are organized around the following themes: timber management and processing; wildlife; hunting and fishing; agriculture and maple sugar production; and tourism and the environment. The members are owners of woodlots within the territory of the «Groupement forestier de l'Est-du-Lac Témiscouata».

A representative of each of these five committees sits on the strategic planning committee, which has been mandated to oversee the development and implementation of resource management plans. Representatives of the tree farmers, sponsors, and partners also sit on the committee.

The 1994-1995 fiscal year was the second one of concrete operation. Up to now, activities have mainly focused on:

- setting up operational structures;
- developing the two management models;

- planning the various stages of the project, including the evaluation of the first phase;
- selecting tree farmers and integrating them into the project;
- assessing the resources present;
- drawing up management plans for all the resources present on the territory;
- developing a model for individual resource management plans for woodlot owners and tree farmers that take account of all the forest resources present;
- carrying out silvicultural and wildlife management activities.

The budget for the first fiscal year (1993-1994) was $1.7 million, of which $734 000 came from the Green Plan (model forest budget). In addition, approximately $900 000 was contributed towards forestry operations by the provincial and federal governments under private woodlot development programs. The budget for the 1994-1995 fiscal year will total $4.5 million, of which $1.1 million will come from the Green Plan (J. Robert, 1994, pers. comm.).

Matane Regional County Municipality Tree Farm Project

Unless otherwise indicated, the information in this section is taken from CERFO (1995).

The Matane regional forestry committee («Comité forestier de la région de Matane») was established in September 1991 to develop forestry initiatives to ensure a stable rural population in the region and promote sustainable development. This committee, which is a subsidiary of a provincial pressure group, the «Coalition Urgence rurale», was initially composed of residents of the eight municipalities in the Matane regional county municipality (RCM) with a forestry-based economy, as well as representatives of local organizations (G. Tremblay, 1995, pers. comm.).

In 1991, these municipalities had a total population of close to 5 400, down 7% from 1981. Furthermore, employment income makes up only 61% of total income in these municipalities, compared with the provincial average of around 77%.

In March 1993, after consulting local stakeholders, the forestry committee submitted to the local RCM and the «ministère des Forêts du Québec» (MFO) (Quebec Forestry Department) a project to set up tree farms on Crown land (intramunicipal and unorganized territory). The farms would be from 350 to 500 ha in size and would be managed under the aegis of a community organization through 20-year purchase contracts with farmers. Operations would be initially financed through job training programs and existing social programs (Comité forestier de la région de Matane 1993).

In response to this proposal, the MFO suggested that the forestry committee give the matter further study and get local stakeholders more involved. In the autumn of 1993, the Matane RCM took over the leadership of the project and set up a consultation committee. The committee was composed of over 30 members representing roughly 15 organizations, including the Matane forestry committee, regional stakeholders from the private woodlots (joint management organizations and wood producers' associations), forestry companies in the region, and government departments and agencies, including the Canadian Forest Service and the «ministère des Ressources naturelles du Québec» (MRN) (Quebec Natural Resources Department)[15].

The consultation committee established the following objectives:

- to get the main players in the local forestry community more involved in the project;
- to develop a consensus on forestry issues;
- to identify the objectives to be attained in establishing tree farms.

[15] In January 1994, the MFO was integrated into the MRN.

The «Centre d'enseignement et de recherche en foresterie de Sainte-Foy» (CERFO), a teaching and research organization, was commissioned to lead the consultation committee and conduct a study on the technical and financial feasibility of the tree farm project. The study was completed in January 1995, and subsequently approved unanimously by the Matane RCM mayors' council. The key points of the study are outlined in the following paragraphs.

The study proposes that roughly 20 tree farms be created, from 400 to 800 ha in size. They would be located on intramunicipal lots within 10 km of the communities. Most of this land is currently managed by forestry companies under timber supply and forest management agreements (CAAF) or by joint management groups under management contracts.

The forest in these areas is mainly young and dominated by hardwoods. Furthermore, the rivers, lakes, and various types of forests found provide a good habitat for a number of wildlife species including moose, white-tailed deer, Atlantic salmon, and ruffed grouse. Consequently, the land could be used to develop nature, wildlife and adventure tourism (i.e., ecotourism products.)

The preliminary analysis of the project's financial viability was based on the following three premises:

- A tree farm must generate enough revenue to provide the primary income for a household--between $20 000 and $30 000 before taxes.
- Initially, operating revenues will come mainly from timber harvesting and silviculture, with non-timber resources generating additional revenues.
- Management activities must be sufficiently intensive to ensure timber yields of 2 m^3/ha/year.

The financial analysis indicated that the tree farms would be economically feasible as long as the following conditions were met:

- the average payment for silvicultural work must be at least $500/ha;
- annual operating expenses must not exceed 60% of operating revenues;
- the annual harvest must be over 500 m^3 per production unit;
- timber prices must remain at the 1994 average or higher.

The study makes a series of recommendations on implementing the project. Recommendations on the project structure include:

- the RCM should co-ordinate the project during a 15-year pilot project phase;
- the RCM should ensure the co-operation of partners in the community by making the consultation committee a permanent structure during the pilot project phase;

- a community organization to be determined should be responsible for overseeing the implementation of the project;
- long-term leases should be granted to tree farmers to minimize the initial investment required and discourage speculation;
- the region's joint management organizations should provide training and technical support for tree farmers.

An action plan was also proposed that contains the following recommendations:

- the funding required to implement the project (including technical support and follow-up) should be evaluated and financial partners should be lined up;
- production units should be determined based on an inventory of all the resources present and a management inventory;
- tree farmers should be selected based on criteria determined by the consultation committee;
- links should be established with the management of the Lower St. Lawrence Model Forest in order to take advantage of the expertise they have developed in sharecropping;
- adequate management tools for supporting tree farmers should be developed;
- a training plan for tree farmers should be formulated;
- an evaluation framework should be developed to measure whether objectives are being met and to compare the tree farm model with other management mechanisms.

Intramunicipal Lots in Abitibi-Temiscaming Region

Unless otherwise indicated, the information in this section is taken from the following sources: Comité politique de la mise en valeur des lots intramunicipaux (1993) and the Government of Quebec-CRDAT (1994).

In the autumn of 1990, a working group consisting of representatives of regional organizations and the provincial and federal governments began a study on the feasibility of developing intramunicipal lots in the Abitibi-Temiscaming region. This working group had been commissioned by a committee made up of the wardens of the five RCMs in the region and the heads of four regional organizations: the Abitibi-Temiscaming Farmers' Union («Fédération de l'UPA de l'Abitibi-Témiscamingue»), Abitibi-Temiscaming wood producers' association («Syndicat des producteurs de bois de l'Abitibi-Témiscamingue»), Abitibi-Temiscaming rural development association («Société d'aménagement rural de l'Abitibi-Témiscamingue») and Abitibi-Temiscaming Regional Development Council (CRDAT). As part of the study, a strategy was formulated to develop intramunicipal lots in order to promote economic development in local municipalities.

This strategy involves the forestry, agricultural, and tourism sectors. One of its main recommendations concerning intramunicipal lots is that a regional management board be set up to study and approve proposals to sell, lease or develop them under forest management contracts.

The Government of Quebec responded to these recommendations in September 1993 by presenting a proposal on developing intramunicipal lots in the region. Negotiations with the main regional players were undertaken to work out an agreement based on the government's proposal.

On November 18, 1993, the Government of Quebec and CRDAT signed a general agreement on regional development. This agreement targeted the development of intramunicipal lots as the priority in regional development and made provisions for concluding a specific agreement on the issue.

On June 28, 1994, CRDAT and the Quebec government signed the specific agreement. The agreement defines the general framework for joint action by both the Quebec government and the region to develop public intramunicipal lots as a lever for regional development. An additional aim of the agreement is to implement and evaluate a new model for decentralizing resource management on Crown land.

The objectives of the joint action envisaged under the agreement are to:

- revitalize, strengthen, and develop rural communities;
- create and maintain jobs for rural residents near the places where they live to ensure the continued occupation of the area;
- develop the agricultural, forestry, and tourism sectors;
- adhere to the principles of integrated resource and land management, environmental protection, and sustainable development.

The agreement covers Crown land located within the boundaries of the municipalities in the region, but excludes land covered in timber supply and forest management agreements with the «ministère des Ressources naturelles du Québec» (MRN) (Quebec Department of Natural Resources).

The intramunicipal lots targeted by the agreement cover close to 300 000 ha and have an annual allowable cut of around 300 000 m^3. The lots take in almost all of the 86 municipalities in the region; it is estimated, however, that the agreement mainly affects 80 municipalities with a combined population of 60 000 when the major cities whose economies will not be directly affected by the agreement are excluded (J. Rivard, 1994, pers. comm.).

The development measures specified in the agreement are divided into four main components:

Component 1. Transfer of scattered lots to municipalities
In the first component, the MRN will transfer all scattered lots of Crown land under its authority (units of 400 ha or less in a single block) to the municipalities. This will allow the municipalities to become the owners of approximately 2 000 lots and parts of lots. If the municipalities wish, they may sell or lease these lots.

Component 2. Creation of a reserve of lots for agriculture and agroforestry
The aim of the second component is to develop blocks of lots (units of over 400 ha in a single block) with a potential for agriculture or agroforestry. It is estimated that around 600 blocks of lots will be transferred to municipalities under this component. The municipalities may then sell or lease them to private developers or nonprofit organizations to be used for the development of agriculture or agroforestry.

Component 3. Establishment of forest management contracts with municipalities and RCMs
This component targets roughly 6 400 lots in blocks (over 400 ha) with the greatest forestry potential (J. Rivard, 1994, pers. comm.). In the short term, these lots will remain the property of the province and will be included in forest management contracts («conventions

d'aménagement forestier») with the MRN as specified in the December 1993 amendments to the Quebec Forest Act[16].

This new form of tenure will allow municipalities or groups of municipalities to manage timber resources on Crown land for sustained yield. RCMs may also sign similar agreements to manage lots on unorganized land. Forest management contracts will contain the following key provisions:

- municipalities will not be required to pay stumpage fees;
- projects submitted to the MRN must be self-financing;
- the timber harvested is not tied to specific processing plants.

In accordance with Section 104 of the Act, the contract shall specify the form, content, and conditions of approval of the forest management plan, the form and content of the reports of activities to be provided, the destination of the harvested timber and the conditions governing the marketing of the harvested timber.

In addition, the new Minister of Natural Resources has announced his intention to transfer the blocks of lots targeted under this component to the municipalities. As of December 1994, the details of the transfer had not yet been determined (J. Rivard, 1994, pers. comm.).

Component 4. Establishment of development funds
The preceding components are conditional on the creation of funds for developing private and public intramunicipal lots. These funds are to be obtained mainly from the following sources:

- approximately $1.3 million in start-up funding from the government (J. Rivard, 1994, pers. comm.);
- net revenues from the sale and leasing of lots transferred by the MRN;
- sale of timber from the transferred lots and lots under management contracts.

Development funds are to be managed by the RCMs or an organization mandated by them. Privatized lots will also be eligible for funding under the MRN's financial assistance program for the development of private woodlots.

The components of the agreement will be implemented gradually over the next few years. Key deadlines stipulated in the agreement include:

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[16] When the agreement was signed, some of the lots were under the jurisdiction of the «ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec» (MAPAQ) (Quebec Department of Agriculture, Fisheries, and Food). These lots will be transferred to the MRN before the forest management contracts are signed.

- most scattered lots and lots in the reserve of agricultural and agroforestry lots (components 1 and 2) are to be transferred to the municipalities within 30 months (November 1996);
- blocks of lots are to be assigned (components 2 and 3) within 7 months (January 1995);
- forest management contracts are to be signed with municipalities and RCMs within 9 months (February 1995).

CRDAT will act as co-ordinator for the various regional and local stakeholders during the period the main provisions of the agreement are being implemented. A working group (resource committee) has been created in each RCM to provide technical support to the municipalities during all stages of the planning and management process.

Lennoxville Woodlot

Unless otherwise indicated, the information in this section is taken from J. Gagnon (1993, pers. comm.).

The small Quebec town of Lennoxville has a population of 4 100. It is located about 5 km south of Sherbrooke in the Eastern Townships. The local economy is dominated by the institutional sector, particularly education, and a few major industries. The community forest consists of 190 ha located 6 km outside the town limits. Most of the property was acquired by the municipality in 1919 for its water supply and the forest was used primarily for that purpose until 1986.

The Lennoxville forest (also called the Johnville forest) is made up of mixed stands typical of the Eastern Townships. These stands are dominated by red maple, white spruce, and sometimes black spruce. The forest also includes plantations of red pine and jack pine that were established some forty years ago. There are also peat bogs and glacial ponds dating from the Wisconsin Glacial Stage. Some of the bogs are ombrotrophic, meaning they are fed entirely by their own drainage basin. These bogs, which are rare in southern Quebec, are characterized by very acidic soil and unique flora. The forest abounds with wildlife, including bears, moose, deer, and many species of birds.

In the 1980s, gravel and peat moss operations on adjacent lots threatened the water balance of the forest. The town and a group of people who knew about the problem stepped in to protect the forest. Legal battles paid for by the municipality resulted in special regulations on standards for drainage and gravel operations being adopted at the regional county municipality level.

A five-person corporation was created in 1989 to manage the forest. The Johnville Forest Conservation Corporation is dedicated to protecting and conserving this unique site and managing it for educational, recreational, and scientific purposes. It describes itself as working for humanitarian purposes, not profit. The board of directors includes four people with a wide range of expertise in managing natural resources, including: the director of the Master of Environmental Science program at the Université de Sherbrooke and the head of the Department of Biology at Bishop's University. The corporation and the Lennoxville town council work closely with each other. The town council is responsible for protecting the site, while the corporation is responsible for managing it. A long-term lease with the town establishes the framework for the corporation's management authority.

In 1988, the municipality had the forestry and farming corporation «Les Sommets», a joint management group, draw up a basic five-year management plan for the forest in co-operation with the Eastern Townships science council. The last year of implementation was therefore 1993. The plan basically called for stand tending operations and clean-up work, such as commercial

thinning, salvage cutting in windfall areas, and work to improve the drainage. The general thrust of the management plan was established without consulting the local population.

Furthermore, in an effort to meet educational objectives and evaluate the development potential of the forest, a study was carried out by a student preparing for a master's degree in environmental science. The study proposes the development of four nature trails and the establishment of a nature interpretation centre based on the concept of a discovery room. Work on the interpretation centre is scheduled to begin in early 1995.

On the management front, salvage cutting (stands totalling 10 ha from 1986 blowdown), sanitation cutting, plantation maintenance, and some drainage work had already been done by 1993. Most of the work called for in the plan has now been completed. The bulk of the work was done by the joint management group «Les Sommets» under the «ministère des Forêts du Québec» (Quebec Department of Forests) financial assistance program for the development of private woodlots. Some of the techniques used were rather unconventional; for example, 90% of the hauling was done by horses.

On the financial front, profits from the sale of the timber harvested during the various cutting operations were used to build a 4-km network of roads within the forest and to finance the study on management potential. During the summer of 1993, the corporation looked for sources of funding to implement the proposals in the study. To prevent damage to sensitive areas, the corporation will not allow the general public access to the forest until the visitor infrastructures are in place. However, a number of guided tours have been given, primarily to local school groups.

One of the main benefits to come from management of the forest is that a number of local organizations were awarded contracts when the management plan was being drawn up and when development work first began. Its unique features make the forest a prime site for environmental and forest management research for the universities in the area. Some people have also been given guided tours to observe various resources. Once the interpretation centre opens, the number of visitors will increase considerably.

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