Socio-economic viability of forest tenant farming:

EVALUATION REPORT

Sylvain Masse

Canadian Forest Service

Laurentian Forestry Centre

Policy & Liaison Directorate

Natural Resources Canada
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Ressources naturelles Canada
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TABLE OF CONTENTS

List of Tables and Figures v

Acknowledgments vii

Introduction 1

Chapter 1 - Tenant Farming in Brief 3
1.1 Concept 3
1.2 Test Areas 3
1.3 Operational Framework 4
1.4 Objectives 5
1.5 Planning 6
1.6 Level and Use of Stumpage Fees 6
1.7 Income and Expenditures 7

Chapter 2 - Evaluation Approach 9

Chapter 3 - Survey of Tenant Farmers 11
3.1 Demographic and Community Aspects 11
3.2 Working Conditions 12
3.3 Perception of the Model Forest and Relations with its Stakeholders 13
3.4 Income 16
3.5 Expectations and Vision 18
3.6 Principal Observations 21

Chapter 4 - Survey of Former Tenant Farmers 23
4.1 Demographic and Community Aspects 23
4.2 Working Conditions 24
4.3 Perception of the Model Forest and Relations with its Stakeholders 24
4.4 Income 27
4.5 Expectations and Vision 28
4.6 Principal Observations 31

Chapter 5 - Survey of Employees of Tenant Farmers 33
5.1 Demographic and Community Aspects 33
5.2 Working Conditions and Income 34
5.3 Principal Observations 37

TABLE OF CONTENTS (continued)

Chapter 6 – Socio-economic Impact 39
6.1 Direct Workforce Associated with the Implementation of Tenant Farming Activities 39
6.2 Location of Tenant Farming Operating Expenditures 41
6.3 Destination of Timber 42
6.4 Location of Family Consumption Expenditures 42
6.5 Budget Savings in Employment Insurance Benefits 43
6.6 Principal Observations 43

Chapter 7 - Costs of General Supervision and Technical Support 45
7.1 Methodological Approach 45
7.1.1 Some Definitions 45
7.1.2 Indicators 46
7.1.3 Case Study 47
7.1.4 Reference Years 49
7.1.5 Data Collection and Processing 50
7.2 Results 50
7.2.1 General Indicators 51
7.2.2 Indicators Associated with Technical Support for Non-commercial Silviculture 53
7.2.3 Indicators Associated with Technical Support for Commercial Silviculture 55
7.2.4 Indicators Associated with Technical Support for Multi-resource Activities 58
7.3 Principal Observations 59

Chapter 8 - Summary and Issues 61
8.1 Viability of the Tenant Farms 61
8.2 Costs of General Supervision and Technical Support 65
8.3 Socio-economic Impact 66
8.4 Potential for Applying the Formula 67

Conclusion 71

Appendix 1 - Evaluation of Budget Savings in Employment Insurance Benefits 73

Appendix 2 - Parameters of the Cost of Tenant Farming Operations 75

LIST OF TABLES AND FIGURES

TABLES

Table 1 - Sources of income for tenant farms in 1998-99 7
Table 2 - Expenditures of tenant farms in 1998-99 8
Table 3 - Principal types of indicators according to four evaluation criteria and four principal studies 10
Table 4 - Allocation of time devoted by tenant farmers to tenant farming in 1998-99 12
Table 5 - Proportion of gross income derived from multi-resource activities in five years 16
Table 6 - Satisfaction of tenant farmers with the net profits of their tenant farms before taxes in 1998-99 17
Table 7 - Contexts and adjustments for applying the model 20
Table 8 - Principal reasons for leaving tenant farming 29
Table 9 - Conditions required to remain in tenant farming in the medium term 29
Table 10 - Contexts and adjustment for applying the model 30
Table 11 - Principal activities of tenant farmers' employees 34
Table 12 - Length of employment, wage, and method of remuneration of employees for three principal activities 35
Table 13 - Frequency and average duration of employees' secondary activities, for three principal activities 35
Table 14 - Frequency of other sources of employee income, for three principal activities 36
Table 15 - Tenant farmers' perception of the evolution of tenant farming jobs over the next five years, based on three aspects 40
Table 16 - Person-weeks by type of activities performed by subcontractors in 1998-99 40
Table 17 - Direct person-weeks generated by tenant farming in 1998-99, by type of workforce 41
Table 18 - Geographic distribution of tenant farming operating expenditures 41
Table 19 - Geographic distribution of family consumption expenditures by tenant farmers and their employees in 1998-99, by principal spending location 42
Table 20 - Reference years, by management formula 49
Table 21 - Average annual costs of supervision, technical support and operations, by management formula 51

LIST OF TABLES AND FIGURES (continued)

Table 22 - Average annual costs of supervision and technical support per dollar of operations, by management formula 51
Table 23 - Types of costs of supervision, by management formula 52
Table 24 - Types of costs of technical support, by management formula 52
Table 25 - Technical support and operations (annual averages) for non-commercial silviculture, by management formula 54
Table 26 - Types of non-commercial silvicultural operations, by management formula 54
Table 27 - Technical support and operations (annual averages) for commercial silviculture, by management formula 55
Table 28 - Technical support ratios for commercial silviculture, by management formula 56
Table 29 - Types of commercial silvicultural operations, by management formula 56
Table 30 - Types of volumes harvested, by management formula 57
Table 31 - Transformation of technical support ratios for silviculture ($127/ha = 1) 58
Table 32 - Average annual costs of technical support and operations for multi-resource activities 59

FIGURE

Figure 1 - Location of tenant farming test areas 4

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INTRODUCTION

Forest tenant farming is a management formula that involves allocating a plot of land to an individual who agrees to manage it on a sustainable basis and to share its usufruct with the landowner. Since 1994, the Lower St. Lawrence Model Forest (LSLMF) has been testing this management formula in eastern Quebec. The LSLMF is part of a national network of 11 model forests implemented by the Canadian Forest Service (CFS) in the early 1990s to find practical solutions to issues raised by sustainable forest management.

At the request of the LSLMF, the CFS agreed in the fall of 1997 to develop and implement a project to evaluate the socio-economic viability of forest tenant farming. The present report describes this evaluation, most of which was performed between early 1998 and late 2000.

Chapter 1 provides a brief description of the concept of forest tenant farming and its testing framework. Chapter 2 presents the evaluation approach, which is based on a series of criteria and indicators. Chapters 3 to 7 report on the studies used to compile the critical information for the evaluation. Chapter 8 summarizes the information collected and identifies the issues raised by the implementation of the concept. The final section sets out the conclusions of the evaluation.

For the sake of brevity, many descriptive elements are presented succinctly, primarily in the form of lists.

CHAPTER 1: TENANT FARMING IN BRIEF

1.1 Concept

Forest tenant farming[1] is a system of land rental to which certain responsibilities are tied. It can be defined as follows:

> *Allocation of a unit of forest land to an individual, called a forest tenant farmer, who agrees to manage it on a sustainable basis and to share its usufruct with the landowner.*

This approach represents one way of circumventing the impossibility, for most individuals interested in becoming forest farmers, of acquiring sufficient forest land to ensure an adequate standard of living through its management, without recourse to social assistance.

1.2 Test Areas

Tenant farming is being tested in the Lower St. Lawrence region, on two territories owned by Abitibi-Consolidated Inc. and covering 47 600 hectares (figure 1). These territories are classified as part of the Balsam Fir-Yellow Birch bioclimatic domain.[2]

The *Seigneurie du Lac-Métis* covers 33 900 hectares and is located approximately 75 kilometres southeast of Rimouski. It is accessible through the municipalities of Saint-Zénon-du-Lac-Humqui and Saint-Charles-Garnier. It has been divided into 16 tenant farms or areas allocated to tenant farmers.

The *Seigneurie Nicolas-Riou* is located 40 kilometres southwest of Rimouski, within the municipality of Saint-Eugène-de-Ladrière. It has an area of 13 700 hectares and has been divided into nine tenant farms.

---

[1] We also use, without distinction, the abbreviated term "tenant farming".

[2] Ministère des Ressources naturelles du Québec. Mars 1999 (révisé). Programme de reconnaissance des écosystèmes forestiers du Québec méridional. Rapport de classification écologique. Sapinière à bouleau jaune de l'est. 217 p.

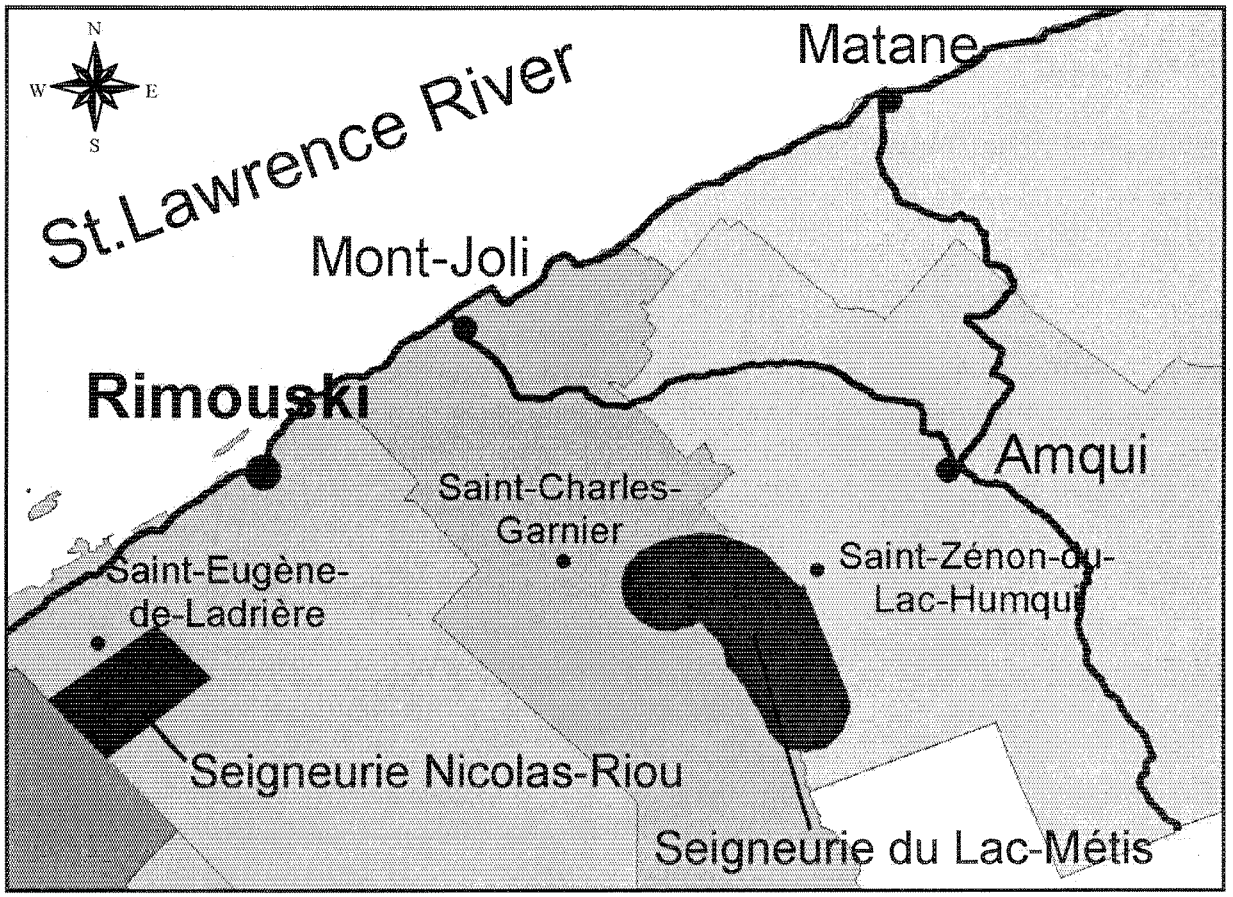

Figure 1. Location of tenant farming test areas

The 25 tenant farms[3] of the Lower St. Lawrence Model Forest have an average area of 1000 hectares. The average allowable cut is approximately 1600 solid cubic metres (m^3_s) per year.

1.3 Operational Framework

The operational framework of tenant farming is characterized by the following features:

- Management delegation of all timber, wildlife and recreational resources within the two seigneuries from Abitibi-Consolidated to the Model Forest.

[3] The number of tenant farms and tenant farmers in the LSLMF has varied slightly over the years.

- Multi-year contracts (ten years) between the Model Forest and the tenant farmers, stipulating that the principal occupation of the tenant farmers must be the operation of their tenant farms.

- An agreement between the Model Forest and Abitibi-Consolidated regarding the destination of the timber cut on the seigneuries. Under this agreement, the landowner may determine the destination of saw logs and peeler logs, designating, for instance, a specific mill for softwood saw timber. In this case, a committee of tenant farmers negotiates the price of the timber with the mill on the basis of the market price. If no agreement is reached, an arbitration system comes into play.

- Individual management of the timber for each tenant farm. The tenant farmers have access to the province's Private Forest Development Program since, for the purposes of this program, they are considered forest owners.

- Stumpage fees in lieu of rent.

- Joint management of recreational, hunting and fishing activities[4] through an outfitting operation (cooperative or corporation) of tenant farmers in each area.

- General supervision and technical support by the Model Forest. The Model Forest's technical support team acts on behalf of the regional agency for private forest development.

1.4 Objectives

This formula is being developed and tested to meet with the following objectives:

- To create wealth in rural communities.

- To promote entrepreneurship.

- To place greater value on forestry work.

- To create jobs for young people.

- To allow equitable distribution of the profits generated by the development of forest resources.

- To develop an exportable model.

[4] We will refer to all of these activities as "non-timber activities" or "multi-resource activities".

1.5 Planning

Planning of the forest activities on each seigneurie is based on a multi-resource management plan prepared in cooperation with the promoters and partners of the Model Forest.[5] This plan is designed to ensure the sustainable development of timber, wildlife, landscapes and recreational potential. It divides the territory into four different areas:

1) Conservation of environmental resources.

2) Protection of environmental resources.

3) Management based on site characteristics.[6]

4) Forest management with intensive recreation.

Each of these areas is subject to specific conditions governing protection and operations. For example, no operations are permitted in the environmental resource conservation area.

The multi-resource plan also includes a code of ethics respecting operations. For example, the use of phytocides for plantation maintenance is prohibited and clearcuts must not exceed four hectares.

Management operations are planned accordingly, through the use of annual and five-year plans.

1.6 Level and Use of Stumpage Fees

Stumpage fee levels vary with the commercial value of the species. During the first year of the tenant farming experiment, in 1994-95, the rates collected per cubic metre and by species were similar to those of the adjoining Crown forests. For instance, the average rate (weighted by the volumes of each species harvested on the tenant farms) was $\$5.24/m^3_s$ for tenant farming, and $\$5.19/m^3_s$ for the corresponding tarification area in the Crown forest. In 1999-2000, the weighted average rate for tenant farming was $\$6.61/m^3_s$ (an increase of 26% over five years), compared to $\$9.35/m^3_s$ for the Crown forest (an increase of 80%). The relative level of stumpage fees for the tenant farming formula is examined later in Chapter 8.

---

[5] The four promoters of the LSLMF are Abitibi-Consolidated Inc., Université Laval's Faculty of Forestry and Geomatics, the *Groupement forestier de l'Est du Lac Témiscouata,* and the *Syndicat des producteurs de bois du Bas-Saint-Laurent.* The Model Forest also receives support from approximately 40 partners, public and private organizations representing a wide range of stakeholders from the forest community.

[6] This area includes sugar bushes and moose winter ranges.

During the period of 1996-97 to 1998-99, the Model Forest collected stumpage fees of approximately $200 000 per year, an average of $8000 per tenant farm. These funds were used as follows:

- 20% went to pay property taxes and land protection fees to the *Société de protection des forêts contre les insectes et les maladies* (SOPFIM) and the *Société de protection des forêts contre le feu* (SOPFEU).

- 50% were reinvested on site, primarily in silvicultural operations and roadwork.

- 30% were paid into a compensation fund. This fund is intended to compensate tenant farmers for improvements they make to the site. At the end of each year, if a tenant farmer has complied with the provisions of his contract, the Model Forest deposits an interest-bearing sum of approximately $2500 in his name. Every five years, the tenant farmer may withdraw some of this money. On his departure, he may withdraw any remaining funds.

In addition, since the 1998-99 fiscal year, a portion of the stumpage fees has been paid into a capital fund that will be used to compensate tenant farmers who invest in infrastructures on the site. For example, if a tenant farmer builds a rental cottage, he can obtain compensation for the infrastructures that remain on site on his departure.

To date, Abitibi-Consolidated has agreed to reinvest all of the stumpage fees in the tenant farming project. In the short term, however, the Model Forest intends to return to the landowner a portion of the stumpage fees collected from the tenant farmers.

1.7 Income and Expenditures

Table 1 shows that approximately 80% of tenant farm revenues come from the sale of timber.

Table 1. Sources of income for tenant farms in 1998-99

Source of income	Amount	Percentage
Timber sales	$1 862 700	78%
Forest management subsidies	$312 200	13%
Compensation fund	$63 800	3%
Multi-resource activities	$64 400	3%
Contract operations	$38 700	2%
Miscellaneous	$58 200	2%
Total	**$2 400 100**	**100%**

The subsidies for forest management come from the Private Forest Development Program (administered by the regional agency for private forest development), from Component 2 of the Forest Resource Development Program, and from the portion of the stumpage fees that is reinvested in the project.

Revenues from multi-resource activities consist primarily of wages paid to tenant farmers who work part-time for a tenant farmers' outfitting operation, and from the rental of cottages located on some tenant farms.[7] In addition, tenant farmers on the *Seigneurie Nicolas-Riou* receive two other forms of multi-resource income: from services provided by their cooperative, such as road grading, and from fees collected for attending cooperative meetings.

Table 2 identifies the principal expenditures of the tenant farms. It will be noted that employee wages and contract activities represent nearly two thirds of the total expenditures.

Table 2. Expenditures of tenant farms in 1998-99

Expenditure item	Amount	Percentage
Contractors and professional services	$574 100	33%
Wages and benefits (employees)	$521 800	30%
Stumpage fees	$233 300	14%
Maintenance and repairs	$130 700	8%
Supplies, equipment and fuel	$96 600	6%
Insurance, taxes and permits	$48 800	3%
Interest charges	$53 700	3%
Syndicat des producteurs de bois du BSL[a]	$47 900	3%
Other[b]	$16 400	1%
Total	**$1 723 300**	**100%**

[a] Levies on sold timber.
[b] Including variations in inventories of harvested timber.

[7] The data in Table 1 do not specify the gross income of the outfitting operations responsible for joint management of the tenant farmers' multi-resource activities. Their sales total approximately $400 000 per year.

CHAPTER 2: EVALUATION APPROACH

The evaluation of the socio-economic viability of tenant farming is based on four criteria:

- viability of the tenant farms;
- costs of general supervision and technical support;
- socio-economic impact;
- potential for applying the formula.

For each of these criteria, we have established a series of indicators that were then measured by four principal studies: three surveys and one study of the costs of general supervision and technical support. Table 3 shows the principal types of indicators based on the four evaluation criteria and the four principal studies. As its name indicates, a type of indicator may group a number of indicators. For example, "working conditions and satisfaction" includes such indicators as the number of weeks worked for each type of activity, the number of hours worked per week, the physical effort required by the operations, and the non-monetary benefits associated with the job.

In addition to these indicators, the surveys of the tenant farmers, former tenant farmers, and employees of the tenant farmers were used to collect demographic data and information on their degree of satisfaction with their community.

Table 3. Principal types of indicators according to four evaluation criteria and four principal studies

Principal studies	Evaluation criteria and types of indicators			
	Viability of tenant farms	**Costs of supervision and technical support**	**Socio-economic impact**	**Potential for applying the formula**
Survey of active tenant farmers	Expectations (initial and evolution) Working conditions and satisfaction Profits (satisfaction, evolution) Other sources of income Perception of structures Relations with stakeholders Desire to remain in tenant farming		Employees (number and evolution) Subcontractors (workforce and evolution) Operating expenditures (location) Consumer expenditures (location) Budget savings in employment insurance benefits	Application contexts Adjustments Benefits Issues
Survey of former tenant farmers[a]	Expectations (initial and evolution) Working conditions and satisfaction Profits (satisfaction, evolution) Other sources of income Perception of structures Relations with stakeholders Reasons for leaving			Application contexts Adjustments Benefits Issues
Survey of employees of tenant farmers			Working conditions and satisfaction Wages (levels and satisfaction) Other sources of income Overall satisfaction Consumer expenditures (location)	Benefits Issues
Costs of supervision and technical support		Cost ratios (tenant farming and comparative formulas)		Issues

[a] Former tenant farmers are individuals who previously were but no longer are tenant farmers.

CHAPTER 3: SURVEY OF TENANT FARMERS

The questionnaire for this survey was developed to complement the data already collected by the Model Forest, focussing on the five topics presented below in question form:

- Who are the active tenant farmers and what are their relationships with their communities?
- What are their working conditions?
- What is their income?
- What are their perceptions of the Model Forest and its stakeholders?
- What are their expectations and their medium- and long-term vision?

The survey also enabled us to identify the employees of the tenant farmers. These individuals were then contacted as part of a specific survey described in Chapter 5. In addition, the survey of active tenant farmers was used to compile basic data to estimate some of the socio-economic impacts presented in Chapter 6.

In February and March 1999, we met with each of the Model Forest's 25 tenant farmers. Twenty of them began tenant farming in 1994, and five in 1998.

3.1 Demographic and Community Aspects

The LSLMF's 25 tenant farmers are men between the ages of 27 and 53, with an average age of about 39. Their average age is the same as that of forestry workers in Quebec.[8]

Eleven of the tenant farmers were born in the municipality where they were living at the time of the survey. Of the 14 tenant farmers born elsewhere, six had moved there to become tenant farmers.

Twenty tenant farmers are married or living in common-law relationships. They have an average of two children, with an average age of nine. The other five are single and live alone.

Six of the tenant farmers have not completed secondary school, while nine have graduated from secondary school, eight from college, and two from university.

[8] Poulin, H., S. Masse and D. Audet, 1998. Enquête sur la main-d'oeuvre forestière au Québec en 1994 : rapport synthèse. Ministère des Ressources naturelles du Québec. Charlesbourg, Québec. 51p.

Before becoming tenant farmers, two thirds of the respondents were already working in forest management, primarily as silvicultural employees, entrepreneurs, maple syrup producers or educators. Two thirds of the future tenant farmers had an employee status and the remainder were self-employed.

In general, 80% of the tenant farmers are very satisfied or fairly satisfied with their municipality as a place to live. When asked about the advantages of living there, 64% mention living in the country and 56% the natural environment. For more than half of the tenant farmers, the lack of services is the principal disadvantage to living in their municipality.

3.2 Working Conditions

In 1998, the tenant farmers devoted an average of 36 weeks to tenant farming, over 70% of which was devoted to silvicultural activities (Table 4). During this period, they worked an average of ten hours per day, and five days per week. Nine out of ten tenant farmers are very satisfied or fairly satisfied with the time they devote to their tenant farms.

Table 4. Allocation of time devoted by tenant farmers to tenant farming in 1998-99

Type of activities	Average number of weeks	Percentage
Silviculture[a]	26.0	72%
Multi-resource activities	3.0	8%
Management[b]	7.4	20%
Total	**36.3**	**100%**

[a] Commercial and non-commercial silviculture, including roadwork. Commercial silviculture involves harvesting of merchantable trees.
[b] Consisting primarily of planning, supervision, marketing, administration and training activities.

When the tenant farmers are asked if they anticipate changes in the duration or type of their activities over the next five years, two thirds answer no and one third yes. All those responding in the affirmative expect to extend their annual operating period, primarily through winter cutting operations and maple syrup production projects.

Three quarters of the respondents feel that being tenant farmers offers them intangible or non-monetary benefits. For instance, several of the tenant farmers use the model forest for personal and family recreation, particularly for hunting, fishing and hiking activities. Some mention that they enjoy working in the woods or interacting with colleagues.

However, 11 tenant farmers feel that some of their forestry operations involve excessive physical effort or poor working conditions for themselves and their employees. Timber harvesting is the principal operation concerned. Some would like to alleviate this problem by mechanizing their cutting operations.

Since beginning tenant farming, a majority of the respondents have purchased equipment, particularly pickup trucks, snowmobiles, ATVs, and skidders. In addition, most of them expect to purchase machinery over the next five years, particularly for their cutting operations. To the question "Is it difficult to obtain financing to purchase machinery for your tenant farm?", 80% say that it is fairly easy or very easy.

Similarly, three tenant farmers have already put up buildings (cottages) on their farms and nine plan to do so (cottages, maple syrup processing centre) in the next five years. According to 11 tenant farmers, it is fairly easy or very easy to obtain financing to put up buildings on their tenant farms. However, seven others consider it fairly difficult to obtain financing for infrastructures. Two constraints in particular are noted: non-ownership of the land and uncertainty as to the renewal of the partnership agreement with the landowner.[9]

In addition, eight out of ten tenant farmers describe themselves as very satisfied or fairly satisfied with their employees. Two thirds find employee management and supervision very easy or fairly easy. The principal sources of difficulties reported are lack of initiative and lack of responsibility on the part of certain employees. In this respect, the vast majority of the tenant farmers find it difficult to recruit good employees. They report a shortage of motivated and well trained workers, and complain of a lack of new forestry workers in their region.

3.3 Perception of the Model Forest and Relations with its Stakeholders

The tenant farmers were asked about their level of satisfaction with various elements pertaining to tenant farming. The dissatisfied respondents were invited to expand on their perceptions.

More than 50% describe themselves as very satisfied with:

- **the initial allocation of the tenant farms to the tenant farmers.** Four tenant farmers, however, subsequently changed their views. Some of these say that they had initially relied too heavily on multi-resource activities to ensure the viability of their tenant farms. Others feel that the timber resources were either unevenly distributed or inaccurately evaluated. The tenant farmers' satisfaction with the adjustments made to some of the tenant farms is discussed below.

[9] This agreement has since been renewed until 2009.

- **the technical support provided by the MF**. In three of the five cases of dissatisfaction, the respondents would like more technical advice, particularly on the management of multi-resource activities, and less supervision.

The tenant farmers are generally satisfied[10] with:

- **the objectives of the MF**. The two cases of dissatisfaction relate less to the nature of the objectives than to their achievement, particularly in the area of multi-resource management.

- **the board of directors of the MF**. In the few cases of dissatisfaction, the respondents note that they feel left out of the decisions affecting them, or find that the time required to reach decisions is too long. Seven tenant farmers expressed no opinion on the board of directors of the MF.

- **the tenant farmer selection process**. At our request, they identified the criteria that they consider the most relevant to the selection of future tenant farmers. These criteria are: experience or training in forest management, entrepreneurial skills, determination and energy.

- **the adjustments made to the tenant farms**. Two tenant farmers feel that the adjustments made by the MF have not adequately corrected the initial disparities among the tenant farms in terms of timber resources.

- **the training provided by the MF**. A number note the quality of the training and the fact that it is adapted to their needs. Some would have preferred to complete their training earlier in the project, to learn about certain topics in more detail, or to have additional opportunities for training.

- **the multi-resource management plan** (including the code of ethics and the management restrictions).

- **their contractual responsibilities** (including the annual action plan). Three tenant farmers state that they are fairly dissatisfied with these responsibilities, primarily because of the workload they involve.

- **the tenant farmers' outfitting operation**. However, some perceive a lack of involvement on the part of some of their colleagues, a takeover of control by a minority, and a cumbersome operating structure. One tenant farmer dislikes having to belong to an outfitting operation in order to manage the non-timber resources of his tenant farm.

- **the compensation fund**. Two tenant farmers indicate that they would be satisfied with the net profits of their tenant farm, even without a compensation fund.

---

[10] Satisfied: more than 50% of the tenant farmers are very satisfied or fairly satisfied.

- **the funding of the operations**. According to one tenant farmer, the standards have become more rigid since becoming the responsibility of the regional agency for private forest development. Another feels that some silvicultural operations are underfinanced.

- **the stumpage fees**.

However, the tenant farmers are divided on:

- **the partners of the MF**. According to several tenant farmers, most of the partners have no significant impact on the testing of tenant farming. Similarly, others mention that the partners are not sufficiently involved. Five respondents expressed no opinion.

- **the restrictions imposed by the MF on the mechanization of cutting operations**.[11] Several tenant farmers would like to mechanize their cutting operations in order to compensate for the shortage of qualified workforce, to improve their working conditions, to reduce their production costs, or to increase their free time.

Moreover, most respondents find it advantageous **to belong to a group of tenant farmers when dealing with the MF**, particularly in negotiations. The others consider it neither an advantage nor a disadvantage.

When asked whether the tenant farmers offer one another enough help or collaboration, two thirds or the respondents say that they do. They report **a number of forms of collaboration**:

- joint management of tenant farms;[12]
- the tenant farmers' outfitting operations;
- sharing of workforce and equipment loan;
- emergency assistance, assistance in performing operations, and sharing of knowledge;
- joint purchasing of machinery or equipment;
- carrying out of certain contract operations.

[11] Because of financial, social and environmental issues, the board of directors of the MF has postponed the implementation of mechanization projects proposed by tenant farmers. In this context, the MF and some tenant farmers have undertaken in the spring of 2000 the first phase of a trial to measure the impact of the mechanization of cutting operations using small multi-functional heads.

[12] Three tenant farmers manage their farms jointly within a company; two others are doing the same. According to one group member, joint management of tenant farms facilitates small-scale mechanization of cutting operations.

Of the 25 tenant farmers, 21 find **the administrative and technical supervision provided by the MF** reassuring. When asked whether they and their colleagues could function without the supervision of the Model Forest, 18 say definitely yes or probably yes. The tenant farmers offer the following details to support their affirmation:

- Most of them feel that some form of supervision is necessary, primarily to guarantee sound forestry practices, or to act as an intermediary and mediator with the landowner.

- Some indicate that supervision was more important at the beginning of the project than now, for training the tenant farmers and assisting them in the establishment of the tenant farms and the tenant farmers' outfitting operations.

- Of those who feel that they could get along without a supervisory structure, some indicate that doing so would force the tenant farmers to devote a considerable amount of time to activities currently handled by the Model Forest. In their opinion, these additional responsibilities could have an impact on the profitability of the tenant farms.

3.4 Income

The tenant farmers were asked what percentage of their gross income they expected to derive from multi-resource activities in five years. Their projections are shown in Table 5. When they began tenant farming, in 1994 for the major part, eight out of ten tenant farmers expected to derive a larger proportion of their income from multi-resource activities than they do today. Only their anticipated revenues from maple syrup production activities have remained steady or increased since the project began.

Table 5. Proportion of gross income derived from multi-resource activities in five years

Proportion of income	Frequency	Percentage
0-10%	18	72%
11-20%	4	16%
21-30%	1	4%
Over 30%	2	8%
Total	**25**	**100%**

The tenant farmers list a number of reasons to explain their reduced expectations in multi-resource income:

- The initial expectations were unrealistic.
- Some tenant farmers are not interested in this type of activities, while others do not have enough time to become really involved.

- The structures established to handle joint management of multi-resource activities are inadequate.
- More of these activities should be managed individually.
- Demand is limited because of the distance from major urban centres.
- Profits will reach their full potential in ten to fifteen years, primarily because of the size of the investments required to develop tourist structures such as cottages.

As regards income derived from timber sales, two thirds of the tenant farmers feel that the agreement with Abitibi-Consolidated on the destination of the timber cut on the seigneuries affects the viability of the tenant farms. Of these 16 tenant farmers, 14 feel that the impact is negative and that it reduces their gross income derived from timber sales by approximately 7% on average, compared to a free market situation. However, it is not clear whether this percentage corresponds to their total income derived from timber sales or solely to their income derived from saw logs and peeler logs (the categories covered by the agreement).[13]

The tenant farmers were asked to estimate the net profits of their tenant farms before taxes for the year 1998-1999, which was just ending at the time of the survey. Their estimates, which they considered generally very reliable, ranged from $10 000 to $60 000, and averaged approximately $31 000.[14] Table 6 shows their level of satisfaction with these profits. As the average net profits column indicates, profit level explains the degree of satisfaction only in part; the tenant farmers' expectations of tenant farming are the most important factor. We shall examine these expectations below.

Table 6. Satisfaction of tenant farmers with the net profits of their tenant farms before taxes in 1998-99

Satisfaction	Average net profit	Frequency	Percentage
Very satisfied	$39 100	5	23%
Fairly satisfied	$31 700	9	41%
Fairly dissatisfied	$22 500	5	23%
Very dissatisfied	$27 000	3	14%
Total	**$30 700**	**22**	**100%**

Note: Three tenant farmers were unable to estimate their profits for 1998-99 and therefore did not answer this question.

In the eight cases of dissatisfaction (fairly dissatisfied or very dissatisfied), we asked the tenant farmers what level of net profits before taxes would have satisfied them. Their answers ranged from $22 000 to $50 000, averaging $37 500.

[13] The survey of former tenant farmers, the results of which appear in Chapter 4, provides more information of this question.

[14] Because of business-related tax benefits, a net profit of $30 000 is comparable to a wage of over $40 000.

According to the tenant farmers, the annual fluctuations in the net profits of their tenant farms are attributable to four principal factors: lack of experience, fluctuations in timber prices, variations in hardwood pulp quotas and fluctuations in silvicultural subsidies. When asked whether the fluctuations in their annual profits are a serious problem for them, two thirds feel that they are unimportant or fairly unimportant.

To the question, "How do you see the net profits of your tenant farm in five years?", 28% respond that they will be significantly higher, 60% slightly higher, and 12% stable. The tenant farmers list four primary reasons for the anticipated increase in their profits: improved efficiency and effectiveness over time, reduction of their debt due to initial investments, maple syrup production projects, and an anticipated increase in allowable cuts as a result of a recent forest inventory.

In addition, eight out of ten tenant farmers had other sources of income in 1998 besides their tenant farms, such as private woodlots for instance. In two cases out of three, these additional revenues totalled less than $15,000. In 80% of the cases, their current income derived from all sources (i.e. tenant farming and, where applicable, other sources) is higher than (68%) or similar to (12%) their income before becoming tenant farmers.

At the time of the survey, 13 out of 20 tenant farmers' wives were working or had another source of income. Six of these women derived part of their income from the Model Forest, as employees of a tenant farm or of an outfitter.

Nearly 90% of the tenant farmers feel that their total household income offers them an adequate standard of living.

3.5 Expectations and Vision

Most of the tenant farmers had specific expectations when they first applied to the Model Forest:

- 60% wanted to **make a decent living from the forest** by working year-round. 14 of these 15 tenant farmers feel that they have achieved this goal.

- 50% wanted to **be their own boss**. These tenant farmers feel that they have achieved their goal.

- **Multi-resource management** was the third most common type of initial expectation. Of the six tenant farmers citing management of recreational activities as one of their objectives, none has yet achieved this goal. Two still feel that they can do so as tenant farmers, but four have given up the idea. Of the six tenant farmers who were interested in multi-resource management, three state that they have achieved their objective, and two of the remaining three feel that they can still do so.

To the question, "In your opinion, will most of the tenant farms in the Model Forest be viable businesses in five years?", 24 of the 25 tenant farmers answered yes. Two reasons in particular are given to support these predictions:

- According to ten respondents, most of the tenant farms are already viable, and some anticipate improved profitability over the years for the same reasons as those given in section 3.4, for individual tenant farms. However, five tenant farmers indicate that the profits are vulnerable to possible declines in timber prices.

- Six other tenant farmers feel that the existing timber resources on most of the tenant farms are adequate to ensure their viability. In the few cases where commercial volumes are considered inadequate, viability would also be dependent on silvicultural subsidies.

They were also asked whether they hoped to remain in tenant farming in the medium or long term. All want to remain tenant farmers in the medium term, that is, for the next five years. In addition, 20 want to remain tenant farmers for the next 15 years, two are undecided, and three do not want to do so. Of the latter, one wants to retire by that time, another intends to transfer his tenant farm to one of his children, and the third hopes to develop a forestry business outside of the MF.

According to the tenant farmers, four principal conditions must be met to keep them in tenant farming in the medium and long terms:

- the first is health, listed by five respondents, because of the physical efforts required to do the job;

- four respondents mention small-scale mechanization of harvesting operations; some see this as a way of improving their working conditions and alleviating the problem of finding adequate workforce;

- less supervision of their activities by the Model Forest is also mentioned by four respondents; these tenant farmers want more latitude, particularly with respect to the direction in which they choose to take their business;

- renewal of the partnership agreement with the landowner is also mentioned by four respondents.[15]

To the question, "Knowing what you know now, if you had to do it all over again, would you apply to become a tenant farmer?", 18 answered definitely yes, six probably yes, and one definitely no. In the latter case, the person found his first years in tenant farming very difficult because of a lack of practical experience in forestry. Today, he hopes to remain a tenant farmer for at least the next five years.

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[15] Note that this agreement has since been renewed until 2009.

We also asked the tenant farmers whether the forest tenant farm model could be applied outside the LSLMF. All answered yes. Table 7 indicates the contexts and adjustments visualized by the tenant farmers for applying tenant farming.

Table 7. Contexts and adjustments for applying the model

	Frequency
In Crown forests, near municipalities[a]	14
In Crown forests in general	9
In wildlife areas	1
On large private lands	1
More freedom of action[b]	2
Lower stumpage fees than for industrial forestry[c]	2
Basic income guaranteed by silviculture[d]	2
More uniform distribution of timber resources	1
More timber resources[e]	1
Respect of the allowable cuts	1
Tenant farms with three permanent employees[f]	1
Free market for timber sales	1
Groups of tenant farms within a given area (not isolated)[g]	1
Realistic multi-resource objectives	1
Access to a start-up fund[h]	1
Multi-disciplinary technical support	1
Reduced supervision[i]	1

[a] Including intra-municipal lots.
[b] To establish management objectives and structures, provided they are consistent with sustainable development standards.
[c] To reflect the different management conditions.
[d] Particularly if other agencies, such as ZECs [controlled harvesting zones], also have rights to the land.
[e] To make for a more effective adaptation to fluctuations in the timber market.
[f] One tenant farmer, one assistant and one apprentice; net income of approximately $200 000.
[g] Primarily for joint negotiation of timber prices.
[h] To facilitate adaptation to the entrepreneurial context.
[i] Closer ties to the land and less paperwork.

Some tenant farmers took advantage of a general question at the end of the interview to identify some of the advantages of tenant farming, and some of the challenges raised by its application.

Advantages

- Stimulates entrepreneurship: a more satisfying approach than seasonal work.
- Increases local workforce employment, especially compared to industrial forestry.
- Could ensure the viability of small forest communities.

Challenges

- No ready access to timber and wildlife resources on Crown lands because of the sectoral rights already allocated and the size of the cuts performed in recent years in Crown forests located near communities.
- The concept must be applied as soon as possible in view of the declining number of people interested in working in the forest.
- The costs of timber production are higher than those of industrial forestry, because of the differences in the scale of operations and level of mechanization.

3.6 Principal Observations

Several observations stand out in the light of these results. For instance, the tenant farmers describe themselves as generally very satisfied with their municipality as a place to live. Most are satisfied with their working conditions and the operating framework of tenant farming. They are generally satisfied with the profits derived from their tenant farms; most of the tenant farmers even anticipate increased profits over the next five years. Finally, their intention to remain in tenant farming in the medium and, in most cases, in the long term, represents in itself an overall indicator of satisfaction.

However, the survey also indicates that some issues require further examination. One of these issues is the discomfort experienced by a number of tenant farmers on the appropriate balance between supervision and freedom of action. A second issue is the vulnerability of tenant farm profits to fluctuations in the timber markets, which raises the question of income diversification. Possible solutions to the poor working conditions associated with certain forestry operations must also be examined.

Moreover, all the tenant farmers feel that the forest tenant farm concept could be applied outside of the Model Forest, particularly in Crown forests near communities. In this context, they suggest possible adjustments to the model, note some of its advantages, and point out some of the challenges posed by its application.

CHAPTER 4: SURVEY OF FORMER TENANT FARMERS

This second survey was directed at former tenant farmers, individuals who had previously been, but no longer were, tenant farmers.

In August 2000, we were able to contact eight of the Model Forest's ten former tenant farmers. Those contacted all agreed to meet with us. This group was composed of seven men and one woman; the latter had co-managed a tenant farm with her husband.[16]

All the respondents became tenant farmers in the spring of 1994, at the time of the initial selection of tenant farmers for the LSLMF. Five of their seven tenant farms were located on the *Seigneurie du Lac-Métis* and two on the *Seigneurie Nicolas-Riou*. Their experience in tenant farming ranged from two to six years, for an average of three years.

The results are presented on the basis of the principal topics covered by the survey: demographic and community aspects, working conditions, perception of the MF and relations with its stakeholders, income, and expectations and vision.

4.1 Demographic and Community Aspects

Five of the eight former tenant farmers were born in the Lower St. Lawrence region. On average, they have more education than the tenant farmers who are still active. For instance, six of the eight former tenant farmers have completed college studies, one has a university degree and one has a secondary school diploma. In addition, seven of these people have had training or practical experience in forest management, particularly as forestry technicians, forestry foremen or forest conservation officers. Before becoming tenant farmers, five respondents were employees and two were self-employed.

Two thirds of the respondents feel that their training and previous experience was very adequate or fairly adequate for tenant farming. The other third feel that their practical experience in forest management was inadequate.

During their time as tenant farmers, 70% of the former tenant farmers were very satisfied or fairly satisfied with their municipality as a place to live. This level of satisfaction is slightly lower than that of the active tenant farmers, and is explained primarily by the particular situation of the five former tenant farmers on the *Seigneurie du Lac-Métis*. They lived east of the seigneurie, in a different area than that of the seigneurie's other tenant farmers. According to these former tenant farmers, some of their fellow citizens were initially prejudiced against them, as a result of a perception that the tenant farmer was unfairly privileged compared to his fellow citizens. One former tenant farmer experienced

[16] One member of this couple answered most of the survey questions.

vandalism, while another received death threats. However, a number of respondents note that the local population's general perception of them improved with time. For instance, to the question, "Did your fellow citizens show you consideration and respect as a tenant farmer?", three former tenant farmers from the *Seigneurie du Lac-Métis* answered probably yes and two answered probably no. In contrast, one of the former tenant farmers from the *Seigneurie Nicolas-Riou* answered definitely yes, and the other answered probably yes.

4.2 Working Conditions

Like the active tenant farmers, the former tenant farmers report that they devoted an average of ten hours per day and five days per week to tenant farming. In five out of seven cases, they stated that they were satisfied with the amount of time they devoted to their tenant farm.

Like the active tenant farmers, most feel that being a tenant farmer offered them intangible benefits, including the use of their tenant farm for personal and family recreation.

A majority (four out of seven) feel that some of their forestry operations involved excessive physical effort and poor working conditions. The activities in question are cutting timber, working in cold weather, and regeneration tending in summer. One of the respondents would have liked to mechanize his cutting operations to avoid this problem.

Prior to becoming tenant farmers, four of the seven respondents had already supervised employees. Six were generally satisfied with the employees of their tenant farm and considered it easy to supervise them. Some, however, report that it was difficult to recruit and retain good employees because, among other things, of the poor quality of the timber stands on their tenant farms. We shall return to this point later.

4.3 Perception of the Model Forest and Relations with its Stakeholders

The former tenant farmers were asked about their satisfaction with various aspects of tenant farming.

They are generally satisfied[17] with:

- **the objectives of the MF**. While most indicate that they support the initial objectives, some note that the testing conditions did not make it possible to achieve these objectives, primarily because of the low timber volumes on some tenant farms and the structures established for the management of multi-resource activities. As we shall see later, other questions in the survey provide further details on these elements.

[17] Satisfied: over 50% of the respondents are very satisfied or fairly satisfied.

- **the partners of the MF**; but some note the limited contacts they had with these partners. Two respondents indicate that most of the partners had no significant impact on the testing of tenant farming.

- **the board of directors of the MF**. According to two former tenant farmers, the board of directors should have devoted more attention to a number of concrete and urgent problems experienced by some tenant farmers.

- **the initial allocation of the tenant farms to the tenant farmers**. Four respondents, however, subsequently changed their views, primarily because of the initial overestimation of the timber potential of their tenant farms.[18]

- **the training provided by the Model Forest**. They appreciate having been consulted in advance and recognize the relevance of the training received. Two former tenant farmers would have liked to receive specific training on the effects of silvicultural treatments.

- **their multi-resource management plan** (including the code of ethics and the management restrictions).

- **their contractual responsibilities** (including the annual plan). While some consider that the planning exercises are good management tools, others feel that there often was a serious discrepancy between planning and reality, mostly due to some unrealistic projections established with the assistance of the Model Forest's technical team.

- **the financing of the operations (subsidies)**; some, however, note a lack of precision in the calculation of rates, particularly during the first years of tenant farming. In their opinion, some subsidies did not adequately reflect the true costs of the operations or the actual revenues from timber sales. The results were thus skewed in favour of commercial operations over non-commercial operations.

- **the stumpage fees**.

- **the compensation fund.** The few cases of dissatisfaction relate to "nebulous" and "rigid" management of the fund, rather than the amounts involved. Two former tenant farmers see no need for such a fund.

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[18] Adjustments were made by the MF to the boundaries of certain model farms. These changes did not satisfy some of the respondents.

The former tenant farmers were divided on:

- **the restrictions imposed on the mechanization of cutting operations**. Some see this as interference by the Model Forest. Others, in contrast, perceive it as a justifiable reaction to the undeclared intention of some tenant farmers to mechanize their cutting operations in order to be able to devote more time to businesses bearing no direct relation with their tenant farms. Three former tenant farmers expressed no opinion.

In addition, the former tenant farmers are generally dissatisfied[19] with:

- **the initial tenant farmer selection process**. A majority of former tenant farmers feel that forestry experience should have been given more weight in the 1994 initial selection.[20]

- **their outfitting operation**. While three respondents were fairly satisfied, four respondents were fairly dissatisfied or very dissatisfied with their outfitting operation. Two principal sources of dissatisfaction were noted:

  - Some former tenant farmers from the *Seigneurie du Lac-Métis* say that they did not have sufficient time or energy to devote to their tenant farmers' corporation because of inadequate timber volumes. According to these former tenant farmers, they had to devote their efforts primarily to silvicultural operations, with few or no employees, to ensure a minimum level of profits for their tenant farms. In addition, their limited profits did not allow them to invest in multi-resource projects. Their minority position within the Métis tenant farmers' corporation also complicated joint management of the multi-resource initiatives.

  - Others considered it inefficient and unrealistic to be required to manage recreational activities on their seigneurie jointly. They feel that it is difficult to establish a common vision in such a context, given the differences in interests, expectations and resources available for investment. Some indicate that most of the hunting and fishing revenues went to pay wages (manager, secretary, reception staff), thus compromising the medium-term profitability of their outfitting operation. One former tenant farmer notes that he had the opportunity to manage recreational activities individually, but that tourism cannot be handled separately from hunting and fishing. In his opinion, only a diversified supply of products and services, including rental cottages, would make it possible to turn the tenant farmers' multi-resource activities into a profitable operation.

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[19] Dissatisfied: more than 50% of the respondents are fairly dissatisfied or very dissatisfied.

[20] In the light of the results obtained following the 1994 selection, the Model Forest modified its criteria for the selection of new tenant farmers in 1998.

- **the technical support provided by the MF**. Some would have preferred more support, particularly in the development of multi-resource activities. Others perceived excessive supervision and interference on the part of the technical staff.

Like the active tenant farmers, most of the former tenant farmers consider that some form of administrative and technical supervision is necessary to support their activities and ensure sound forestry practices. In their opinion, agencies other than the Model Forest can provide this supervision, particularly forestry group ventures or forestry cooperatives.

In addition, five former tenant farmers found it advantageous to belong to a group of tenant farmers when dealing with the Model Forest, particularly in advancing joint proposals. The other two respondents considered it neither an advantage nor a disadvantage.

4.4 Income

When they became tenant farmers, most of the respondents expected to generate a significant proportion of their gross income from multi-resource activities (more than 20% in five cases out of seven). Over time, their medium-term projections for multi-resource activities declined substantially (less than 20% of income in five cases out of seven). In addition to the reasons noted above (see the comments on satisfaction with the outfitters), the following two factors are mentioned to explain this change in perspective:

- a limited regional market for recreational and tourist activities;
- the restrictions imposed by the Model Forest to standardize the presentation of infrastructures, such as cottages.

According to three former tenant farmers, the agreement with Abitibi-Consolidated on the destination of the timber cut on the seigneuries of the Model Forest had a negative impact on the gross income of their tenant farms derived from timber sales. They estimate the reduction in income for softwood saw timber (the principal type of wood covered by the agreement) at between 5% and 15%. In their opinion, the overall impact on total gross income derived from timber sales (all species combined) is approximately 3% to 8%. However, three other respondents feel that the agreement had no significant impact on income derived from timber sales. One even perceives a positive impact, of approximately 3% to 4%, on total income derived from timber sales.

In their final year of operation, the respondents' tenant farms generated net profits before taxes ranging from $12 500[21] to $35 000, for an average of $22 000. To the question, "Were you satisfied with this level of net profits before taxes?", three former tenant farmers answered yes, and four no. One respondent used this question to mention the significant tax benefits given by the government to businesses such as tenant farms. In his opinion, these benefits should be taken into consideration when comparing net profits and wages.

[21] In this case, the tenant farm was not operated for a full year.

In the four cases of dissatisfaction, the respondents were asked what net profit level would have satisfied them. Their answers ranged from $30 000 to $75 000 for an average of $45 000.

In contrast to the active tenant farmers, a majority of the former tenant farmers feel that the fluctuations in the net profits of their tenant farms from year to year were a serious problem for them. In their opinion, this situation arose in part from the weakness of the hardwood pulp market, which constitutes a significant proportion of the volumes harvested on some tenant farms. It also arose from the marginal profitability of the tenant farms of these former tenant farmers.

In their final year of tenant farming, most of the respondents had other sources of income in addition to their tenant farms as, for instance, wages from another job. In two cases, these additional sources of income were made necessary by the limited profitability of the tenant farms.

Three of the former tenant farmers report that their income from all sources (i.e. tenant farming and, where applicable, other activities) was then higher than their income before becoming tenant farmers. In three other cases, their income from all sources was lower than their income before tenant farming, and in one case, it was similar.

The wives of three respondents had jobs or other sources of income. In two of these cases, part of the wife's income was related to tenant farming, as an employee of a tenant farm or an outfitter.

To the question, "Overall, did the income from your tenant farm allow you to keep an adequate standard of living?", two answered probably yes, one answered probably no, and two answered definitely no.

4.5 Expectations and Vision

The respondents' initial expectations of tenant farming were similar to those of the active tenant farmers. Three types of objectives are mentioned most frequently:

- Six of the seven respondents hoped to **make a decent living from the forest by working year-round**. Half of them have achieved their objective. Among the other half, only one felt that he could have achieved it by remaining a tenant farmer.

- Three respondents wanted to **do multi-resource management**. Only one says that he has achieved his objective; the other two do not feel that they could have done so by remaining tenant farmers.

– Two former tenant farmers wanted to **fulfill themselves by becoming entrepreneurs**. They did not achieve their objective and do not feel that they could have done so as tenant farmers.

Tables 8 and 9 show, in the first place, the principal reasons that led the respondents to leave tenant farming, and in the second place, the conditions that would have been essential, in their opinion, to keep them in tenant farming. These results confirm the two principal sources of dissatisfaction indicated earlier, namely, a lack of profitability related to inadequate timber resources, as well as supervisory and structural problems.

Table 8. Principal reasons for leaving tenant farming

	Frequency
Lack of profitability[a]	5
Frustration, disillusionment	2
Difficulty of finding qualified workforce	1
General supervision and restrictions	1
Choice to make between different businesses	1
Lack of interest in management	1
Absence of individual multi-resource management	1

[a] Including one case of uncertainty regarding the medium-term profitability of the tenant farm related to stand structure.

Table 9. Conditions required to remain in tenant farming in the medium term

	Frequency
Tenant farm with more timber resources	3
Adequate corrective measures implemented rapidly by the MF	2
Greater freedom of action[a]	1
More silvicultural subsidies (higher budgets)	1
Good employees	1
Individual management of multi-resource activities	1

[a] Particularly to grasp opportunities when they arise.

To the question, "How would you evaluate your experience as a tenant farmer?", four respondents found it very positive, one fairly positive, and two very negative. In the five cases of positive experiences, the former tenant farmers state that they were able to fulfill themselves and to acquire skills that are useful to them today, particularly as entrepreneurs. The other two felt that they had been hurt by the experience.

To the question, "Will most of the tenant farms be viable businesses in 5 years?", the seven former tenant farmers replied in the affirmative. They list the same reasons as the active tenant farmers to support their prediction, primarily that:

- most of the tenant farms are already viable because of adequate timber resources;
- profitability will improve with time as a result of gains in productivity, improved timber markets and maple syrup production projects.

Similarly, all the former tenant farmers feel that the forest tenant farm model could be applied outside of the LSLMF. To this effect, Table 10 shows the answers most frequently obtained to the question, "In which contexts and with what adjustments could the model be applied?"

Table 10. Contexts and adjustments for applying the model

	Frequency
In Crown forests, near municipalities	5
In Crown forests in general[a]	1
Ensure adequate basic income[b]	3
Realistic multi-resource objectives	3
More freedom of action[c]	2
Respect of the allowable cut	2
Free market for timber sales	1
Groups of individuals with similar interests	1
"The tenant farmer should be the head logger"	1
Promote multi-resource activities[d]	1
More precise calculation of silvicultural subsidies	1

[a] Even in areas remote from municipalities; logging camps could be used for recreational/tourist purposes, particularly in the winter.
[b] Based on silviculture and maple syrup production.
[c] Provided these actions are consistent with sustainable development standards.
[d] By developing demand and specific products (handicrafts).

Some former tenant farmers used a general question at the end of the interview to identify some of the advantages of tenant farming and the challenges raised by its application:

Advantages

- Encourages the local population to assume responsibility for the management of forest resources.

- Very good from an environmental and silvicultural perspective.

- More compatible with other users (ZECs, outfitters) than industrial forestry.

- Diversifies the supply of products and services generated from forest resources, particularly by promoting the development of new products.

Challenges

- Involves higher timber supply costs than industrial forestry.

- It is not easy to find suitable areas for tenant farming: the Crown forests are located far from municipalities and it is difficult to find blocks of intra-municipal lots of appropriate size and quality.

- Would increase the number of stakeholders, in the industry's view.

- Application of the formula requires political determination.

4.6 Principal Observations

Several observations stand out in the light of the results of the survey of former tenant farmers.

- The views of the former tenant farmers are similar to those of the active tenant farmers with respect to working conditions, workforce, initial expectations, and the potential for application of tenant farming outside of the LSLMF.

- However, their satisfaction levels are lower than those of the active tenant farmers with respect to the process of tenant farmer selection, the initial allocation of the tenant farms, the outfitting operations, and the technical support provided by the Model Forest.

- In five cases out of seven, it was low profits, a result of inadequate timber resources, that led the respondents to leave tenant farming. Dissatisfaction with the structures, particularly for the management of multi-resource activities, also emerges as one of the principal reasons for leaving tenant farming.

- Each of the former tenant farmers with whom we met feels that the tenant farming formula is viable. Most feel that it could be applied close to municipalities, in Crown or intra-municipal

forests. They suggest certain essential conditions for its application, particularly to ensure the security of basic incomes based on silvicultural and, where applicable, maple syrup production activities.

CHAPTER 5: SURVEY OF EMPLOYEES OF TENANT FARMERS

This survey is directed at the employees of the tenant farmers, including the employees of their outfitting operations. It deals primarily with demographic and community aspects, working conditions, income and perspectives. The survey was also used to compile data used to estimate some of the economic impacts of tenant farming. This aspect will be discussed in Chapter 6.

The survey of tenant farmers identified 73 employees who had worked in tenant farming in 1997-98 or 1998-99. In June and July 1999, we met with 45 of them. The questions on working conditions and income relate to their final year of employment in tenant farming.

5.1 Demographic and Community Aspects

93% of the employees of the tenant farmers are men. They are between the ages of 19 and 54, and their average age, 40, is the same as that of forestry workers in Quebec.[22]

Twenty-five were born in the municipality where they were living at the time of the interview. Of the other 20, two moved there to work on tenant farms. In nine out of ten cases, their parents are from the same region, and in eight out of ten cases, their parents are from the same regional county municipality (RCM).

In addition, 60% of the employees live in the same RCM as the seigneurie where they work, 75% in the same RCM as their employer, and 30% in the same municipality as their employer. In this respect, two out of three employees knew the tenant farmer who hired them. Out of these employees, nearly one third are related to the tenant farmer.

Seven out of ten employees live with their spouse. They have an average of 1.3 children, with an average age of 11.

The employees generally have less education than the tenant farmers. For instance, 56% have not completed secondary school, while 31% have completed secondary school, 9% have completed college, and 4% have completed a university degree.

Half of these individuals have a trade or professional training obtained through a long secondary program or vocational school, a quarter of which was forestry training.

The employees have an average of 14 years of experience in forestry. Three quarters of the employees consider themselves primarily forestry workers. When asked to clarify this perception, most indicate that it is their primary occupation or that they enjoy working in the woods.

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[22] Poulin, H.; Masse, S.; Audet, D. 1998. Enquête sur la main-d'oeuvre forestière au Québec en 1994 : rapport synthèse. Ministère des Ressources naturelles du Québec. Charlesbourg, Québec. 51p.

More than eight out of ten employees describe themselves as very satisfied or fairly satisfied with their municipality. Like the tenant farmers, the principal advantages they perceive are peacefulness, the natural environment and living in the country. In terms of disadvantages, they, like the tenant farmers, mention the lack of services, and they also mention the difficulty of finding a good job near their municipality.

To the question, "Suppose you were unemployed and there was no work available in the area, but there was some elsewhere. What would you do?", they responded as follows to the four possible answers:

Stay here but take a job someplace else	51%
Stay here and try to start a small business	28%
Stay here and try to survive	2%
Move and find a job someplace else	18%
	100%

The fact that only 18% of these individuals would accept to move to find work indicates a strong attachment to their community.

5.2 Working Conditions and Income

As Table 11 shows, over 90% of the employees of the tenant farmers are engaged primarily in silviculture or multi-resource activities. In addition, two out of three employees are engaged primarily in commercial silvicultural operations.

Table 11. Principal activities of tenant farmers' employees

Principal activity[a]	Number	Percentage
Commercial silviculture	30	67%
Non-commercial silviculture	8	18%
Multi-resource activities	4	9%
Management, administration	2	4%
Other	1	2%
Total	**45**	**100%**

[a] Determined according to the number of weeks worked per activity.

The employees of the tenant farmers work an average of 44 hours a week. The length of employment and weekly wage vary substantially with the principal forestry activity, as indicated in Table 12. It

will also be noted that a significant proportion of the employees are paid on an hourly basis, the others being paid on a flat-rate basis.

Table 12. Length of employment, wage, and method of remuneration of employees for three principal activities

Principal activity	Average annual length of employment	Average wage	Remuneration on hourly basis
Commercial silviculture	13 weeks	$590/wk	33%
Non-commercial silviculture	6 weeks	$470/wk	40%
Multi-resource activities	12 weeks	$400/wk	50%

In addition to their principal activity, some employees are also engaged in one or several other activities within the context of tenant farming (Table 13). However, the duration of the employees' secondary activities is generally very limited.

Table 13. Frequency and average duration of employees' secondary activities, for three principal activities

Principal activity	Frequency of secondary activities	Average annual duration of secondary activities
Commercial silviculture	37%	6 days
Non-commercial silviculture	13%	2 days
Multi-resource activities	0%	--

Table 14 shows that most employees of tenant farmers have other sources of income in addition to tenant farming. In two thirds of the cases, their other income-earning activities include work in forest management.

Table 14. Frequency of other sources of employee income, for three principal activities

Principal activity in tenant farming	Income-earning activities	Employment Insurance	Welfare
Commercial silviculture	40%	100%	3%
Non-commercial silviculture	88%	75%	38%
Multi-resource activities	100%	25%	0%

The employees were asked about their satisfaction with various aspects of their work. In the cases of dissatisfaction, the respondents were invited to explain their perception.

In over 50% of the cases, they stated that they were very satisfied with:

- **the level of job safety**. Three employees mention that they work alone, which increases the risks in the event of an accident.

- **the training received in tenant farming**. 27% of the employees received training that they all consider very satisfactory or fairly satisfactory.

- **relations with their employer**. The two dissatisfied employees work primarily in timber harvesting. Paid on a flat-rate basis, they do not trust their employer to measure the volumes of timber they harvest.

The employees of the tenant farmers are generally satisfied[23] with:

- **the length of employment**. The six dissatisfied employees would like to work longer.

- **their wages**. According to two dissatisfied respondents, the subsidies to silviculture are sufficient to allow their employers to increase their wages. Two other employees engaged primarily in commercial silvicultural operations feel that timber prices are too low to guarantee an adequate wage.

- **their benefits**. The five cases of dissatisfaction relate primarily to the lack of a pension fund and paid holidays.

- **the physical efforts required by their work**. In the three cases of dissatisfaction, the workers indicate that they had underestimated the physical requirements of their work.

[23] Satisfied: over 50% of the employees are very satisfied or fairly satisfied.

Two thirds of the employees of the tenant farmers say that they receive intangible benefits from their work, such as acquiring skills and gaining experience. Some also appreciate working near home.

Overall, over 95% of the respondents state that they are very satisfied or fairly satisfied with their jobs. To the question, "How would you compare your job in tenant farming to jobs in the same field in your region?", 31% find it definitely superior or generally superior, 45% the same, and 11% generally inferior. 13% of the respondents were unable to make such a comparison.

When asked if they expect to be working in tenant farming in five years, 77% of the employees answer yes. The percentage rises to 88% for those who consider themselves primarily forestry workers.

At the end of the interview, the employees were asked if they wanted to add anything. The following comments and suggestions occur the most frequently:

- Some workers paid on a flat-rate basis would prefer to have the timber measured by a third party, rather than their employer.

- Others indicate that forestry management on the tenant farms is of superior quality and is environmentally responsible.

- Two employees would like to become tenant farmers, like two of the five tenant farmers selected in 1998.

5.3 Principal Observations

The results of the survey of the employees of tenant farmers reveal the following points:

- These individuals are very satisfied with their municipalities and very attached to them. They want to live there, but complain of a lack of local jobs.

- They work six to 13 weeks in tenant farming. For the rest of the year, most are involved in at least one other income-earning activity.

- The vast majority say that they are satisfied with their work in tenant farming.

- Most expect to continue working for tenant farmers over the next five years.

CHAPTER 6: SOCIO-ECONOMIC IMPACT

Based on specific questions from the surveys of the tenant farmers and their employees, we estimated the socio-economic impact of tenant farming in five areas:

- direct workforce associated with the implementation of tenant farming activities;
- location of tenant farm operating expenditures;
- destination of timber;
- location of family consumption expenditures;
- savings in employment insurance benefits.

6.1 Direct Workforce Associated with the Implementation of Tenant Farming Activities

The tenant farmers, their employees and subcontractors constitute the direct workforce generated by tenant farming activities.

Tenant farmers

In 1998-99, tenant farmers worked the equivalent of 872 person-weeks.[24]

Employees of tenant farmers

Tenant farmers employed 63 employees in 1998-99, an average of 2.6 employees per tenant farmer, including the employees of the outfitting operations. These individuals worked a total of 873 person-weeks.

Nearly half of the tenant farmers feel that the number of their employees, the number of activities per employee and the annual length of employment will remain stable over the next five years (Table 15). The other tenant farmers are divided. Some feel that the number of their employees will increase if maple syrup production projects and other projects proceed, or if their allowable cut is increased as a result of a recent forestry inventory. Others believe that they will employ fewer employees, primarily because of the anticipated mechanization of certain activities. In addition, some tenant farmers expect an increase in their employees' annual length of employment, primarily because of an anticipated increase in the average number of activities per employee.

[24] One person-week corresponds to one week of work by one person. For instance, if one person works three weeks and another works one week, they will have worked a total of four person-weeks.

Table 15. Tenant farmers' perception of the evolution of jobs in tenant farming over the next five years, based on three aspects

Anticipated evolution	Distribution of answers by aspect		
	Number of employees	Number of activities per employee	Length of employment
Will increase	20%	40%	44%
Will remain stable	44%	48%	44%
Will decline	32%	12%	8%
Does not know	4%	0%	4%
Total	**100%**	**100%**	**100%**

Subcontractors and their employees

The tenant farmers called on 36 firms to carry out different work in 1998-99. Save for exceptions, these firms were exclusively local and regional firms.

It has been possible to quantify the subcontractors' workforce on the basis of the amount of work performed and the estimated average productivity of these operations. Table 16 shows the results obtained. It will be noted that the subcontractors perform primarily mechanized operations.

Table 16. Person-weeks by type of activities performed by subcontractors in 1998-99

Type of activities	Person-weeks
Transportation of timber	95
Skidding	29
Forest roadwork	19
Site preparation	7
Accounting	3
Other	3
Total	**156**

When the tenant farmers are asked how this type of workforce will evolve over the next five years, two out of three respondents think that it will remain relatively stable. The others are divided and give reasons similar to those noted for the evolution in the number of their employees.

Total workforce

As Table 17 indicates, the implementation of tenant farming activities in 1998-99 generated approximately 1900 person-weeks of work, over 90% of which were cumulated by tenant farmers and their employees. If we exclude tenant farmers, 85% of the workforce is made up of employees, and 15%, of subcontractors.

Table 17. Direct person-weeks generated by tenant farming in 1998-99, by type of workforce

Type of workforce	Person-weeks	Percentage
Tenant farmers	872	46%
Employees of tenant farmers	873	46%
Subcontractors and their employees	156	8%
Total	**1901**	**100%**

6.2 Location of Tenant Farm Operating Expenditures

The tenant farmers were asked to estimate, in percentage form, the geographic distribution of their operating expenditures other than those allocated to employee wages, work performed by contractors and stumpage fees. The results, which are presented in Table 18, show that these expenditures occur primarily in the municipality where the tenant farmer lives and the RCM where his tenant farm is located. Very few expenditures occur outside the region.

Table 18. Geographic distribution of operating expenditures by tenant farmers

Type of expenditures	Geographic distribution			
	Municipality of residence	RCM of tenant farm	Elsewhere in the region	Outside the region
Maintenance and repairs	40%	27%	33%	0.2%
Fuel	44%	32%	24%	0.1%
Supplies	19%	41%	40%	0.4%
Equipment rental	39%	15%	37%	9.1%
Levies and union dues	0%	25%	75%	0.0%
Insurance	4%	33%	63%	0.0%
Bank charges and interest	61%	22%	17%	0.0%

6.3 Destination of Timber

The processing of approximately 40 000 solid cubic metres of timber harvested annually by the tenant farmers generates impacts as well. According to LSLMF data, this timber is processed in ten mills, nine of them being located in the Lower St. Lawrence region. Overall, over 95% of the timber harvested on the tenant farms is processed in the Lower St. Lawrence region.

6.4 Location of Family Consumption Expenditures

The tenant farmers and their employees were asked where they normally make their discretionary family consumption expenditures.[25] As Table 19 indicates, most consumption expenditures are generally made in the municipality where the people live or elsewhere in their RCM. Few consumption expenditures are made outside the region.

Table 19. Geographic distribution of family consumption expenditures by tenant farmers and their employees in 1988-99, by principal spending location

Type of expenditure	Principal spending location				
	Municipality of residence	Elsewhere in the RCM	Elsewhere in the region	Outside the region	N/A[a]
Food, tobacco, alcohol and staples	29%	60%	11%	0%	0%
Restaurants	14%	49%	29%	4%	4%
Clothing	10%	54%	33%	3%	0%
Fuel for personal vehicles	64%	30%	6%	0%	0%
Dentist, optometrist, pharmacy	10%	67%	21%	0%	1%
Books, magazines, games and small gifts	14%	60%	19%	1%	6%
Furniture, electronics, household appliances	7%	54%	37%	0%	1%
Sports and recreation	50%	27%	17%	0%	6%
Automobiles (new or used)	50%	27%	17%	0%	6%

[a] Not applicable

[25] A household can generally decide where it makes its discretionary spending, in contrast to its non-discretionary spending such as rent and municipal taxes. This consumer expenditure location approach is adapted from the model developed by Adam Wellstead and William White and described in the working paper "An Expenditure Based Analysis of Community Dependence: A Case Study of the Bas-St-Laurent Model Forest. August 1, 2000. Canadian Forest Service. Edmonton, Alberta".

6.5 Budget Savings in Employment Insurance Benefits

In the two years preceding their tenant farming experience, 88% of the future tenant farmers received employment insurance benefits, for an average of 23 weeks per year. These individuals are no longer receiving these benefits, resulting in budget savings for the government.

These savings have been estimated on the basis of the average benefits paid to forestry workers in the Lower St. Lawrence region and the 1996 and 1997 modifications to the employment insurance plan. The calculation of the budget savings is found in Appendix 1.

According to this estimate, annual budget savings amount to approximately $7 500 for each former claimant. Since 22 of the 25 future tenant farmers were receiving employment insurance benefits, the budget savings total approximately $165 000 per year.

6.6 Principal Observations

Two observations can be made on the basis of the estimated socio-economic impact of tenant farming.

First, tenant farming results in significant budget savings in employment insurance benefits.

Secondly, the impacts of tenant farming are concentrated primarily at the local and regional levels. This internalization of impacts is attributable primarily to the forest management method itself and to the characteristics of the regional economy, including the presence of a number of medium-sized municipalities and of a regional centre offering most of the goods and services required by the population.

CHAPTER 7: COSTS OF GENERAL SUPERVISION AND TECHNICAL SUPPORT

In this section, we compare the costs of general supervision and technical support of forest tenant farming to those of three other formulas used in Quebec for the management of medium-sized or large forest areas. These are: the forestry group venture, the Timber Supply and Forest Management Agreement (TSFMA) in Crown forests, and management of large private forests by the forest industry.

The study has three specific objectives:

- to identify the nature of the supervision and technical support activities for each management formula;
- to compare the costs of these activities and identify the factors explaining the differences encountered;
- to evaluate the impact of the results on the socio-economic viability of the tenant farming concept.

7.1 Methodological Approach

7.1.1 Some Definitions

In the description of costs associated with management structures, we distinguish the costs of general supervision, technical support and operations.

For the purposes of the present study, general supervision includes four types of activities or subcategories:

- administrative and financial management;
- promotion and recruitment;
- preparation of forest management or multi-resource plans - including preliminary data collection - and opportunity, market and feasibility studies;
- analysis and organization of structures, legal aspects, agreements with partners and community integration.

Technical support stands for direct counselling to forestry workers, woodlot owners or tenant farmers. It includes three subcategories:

- planning (action plans), supervision and monitoring of operations;
- training and transfer of knowledge;
- support to owners and tenant farmers in the areas of operations and management.

Operations correspond primarily to the carrying out of forest management operations (non-commercial silviculture, commercial silviculture and multi-resource activities) and their supervision by foremen or group managers. This category also includes components such as forest roadwork, maintenance and repair of buildings and equipment, and depreciation of capital assets. However, for purposes of standardization, the costs of operations exclude stumpage fees and forest-to-mill timber transportation.

7.1.2 Indicators

To compare the costs of supervision and technical support on a common basis for the different management formulas, seven ratios and five distributions have been developed.

Ratios:

1) Cost of general supervision/costs of operations

2) Cost of technical support (CTS)/costs of operations

3) CTS for non-commercial silviculture/area of non-commercial silvicultural operations

4) CTS for non-commercial silviculture/cost of non-commercial silvicultural operations

5) CTS for commercial silviculture/volumes harvested

6) CTS for commercial silviculture/hectares treated

7) CTS for multi-resource activities/cost of multi-resource activities[26]

Distributions:

1) Cost of general supervision by subcategory

2) Cost of technical support by subcategory

3) Area of non-commercial silvicultural operations by type of operation (site preparation, plantation maintenance, stand tending, etc.)

[26] This ratio applies only to forest tenant farms.

4) Area of commercial silvicultural operations by type of operations (stand regeneration and stand tending)

5) Volumes harvested by type of products (hardwood saw timber, softwood pulp, etc.)

The results of the study are thus presented primarily in these forms.

7.1.3 Case Study

A typical case has been selected for each of the three comparative formulas. They are:

- the group component of the *Groupement forestier de l'Est du Lac Témiscouata* (GFELT), excluding multi-resource activities;[27]

- management of a large private forest owned by a forestry company;

- management of a TSFMA held by a forestry company.

Some of the activities associated with tenant farming and with the group component of the *Groupement forestier* are not directly related to the implementation of these management formulas, but rather to specific responsibilities of the LSL Model Forest. These are primarily communication and research-development activities. Consequently, the study does not consider the costs of these activities.

The use of typical cases rests on the assumption that these typical cases are representative of their respective management formulas in terms of the costs of supervision and technical support. This hypothesis is confirmed in the case of the GFELT. In fact, the detailed results of one study[28] show that the total cost per hectare for the GFELT's technical services is equivalent to the average cost of technical services for eight other forestry group ventures and three other delivery agencies in the Lower St. Lawrence region.

The following paragraphs describe briefly some of the characteristics of forest tenant farming and the typical cases selected for purposes of comparison.

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[27] GFELT's costs of supervision and technical support for multi-resource activities are not examined in the present study. A small number of GFELT silvicultural activities covered by the LSLMF are also excluded.

[28] Del Degan, Massé et Associés inc. Avril 1999. Évaluation du coût des services techniques nécessaires à la livraison des programmes de mise en valeur de l'agence. Québec, Québec. 50 p.

Forest tenant farming

The tenant farming formula is being tested on two privately-owned land areas in the Lower St. Lawrence region with a total of 43 800 hectares of accessible timber stands. Predominantly hardwood stands cover approximately 13% of the area, mixed stands cover approximately 60%, and predominantly softwood stands cover approximately 27%.

Each of the 25 tenant farmers has been assigned a territorial unit of approximately 1000 hectares. Cutting is performed with chainsaws and skidding is performed with forwarders, generally with the conventional wheeled type. Cutting areas average 1.4 hectare for clearcuts, and 2.3 hectares for stand-tending cuts.

Group component of the GFELT

The GFELT provides services to woodlot owners in six municipalities through the individual and group components of the Private Forest Development Program. Our typical case relates to the group component, which manages 27 800 hectares of forest land.

For practical reasons, the study also includes the costs of the *Groupement*'s activities on intra-municipal lots and in a demonstration forest. Since the operations associated with these specific components are relatively limited (approximately 5% of the group component's total operations), their inclusion has no significant impact on the results of the study.

The forest land managed by the group component consists primarily of predominantly hardwood stands (47%). Mixed and predominantly softwood stands occupy 30% and 23% of the productive forest land, respectively. The logs are cut using chainsaws. Skidding is performed primarily with small tracked forwarders. In 1997-1998, the average area for commercial cuts was approximately 1.6 hectares.

Management of a large private forest

With an area of 55 000 hectares, this forested area is composed of predominantly softwood stands (20%), mixed stands (40%), and predominantly hardwood stands (40%). Contractors perform most of the forest management operations. The landowner provides general supervision and technical support for the forestry activities[29].

Approximately 30% of the cutting operations performed on this land are mechanized. Whole trees are hauled by cable skidders. Cutting areas (clearcuts and stand-tending cuts) average approximately 10 hectares in size.

[29] Some of the technical support for non-commercial silviculture is provided by the contractors performing the operations. The corresponding technical cost is estimated at 5% of the cost of the contracts.

Management of a TSFMA

This TSFMA covers a common area of 462 000 hectares. Approximately one third of the stands are predominantly softwood stands, one third are mixed stands and the other third are predominantly hardwood stands. Contractors perform most of the forest management operations, while the beneficiary of the TSFMA handles general supervision and technical support.[29]

Cutting operations are 70% mechanized. Whole trees are hauled by skidders. Clear cuts and stand-tending cuts average approximately 20 hectares in size.

7.1.4 Reference Years

Table 20 shows the years selected for the study for each management formula. Initially, only the period of 1995-96 to 1997-98 was selected for tenant farming.[30] Later, it proved necessary to include the year 1999-2000 as well. In fact, as we shall see, some of the parameters associated with the implementation of tenant farming have evolved over recent years, affecting the value of certain indicators.

Table 20. Reference years, by management formula

Management formula	Reference years
Forest tenant farming - period 1	1995-96 to 1997-98 (3 years)
Forest tenant farming - period 2	1999-2000 (1 year)
Groupement forestier - group component	1995-96 to 1997-98 (3 years)
Large private forest	1996-97 to 1997-98 (2 years)
Timber Supply and Forest Management Agreement	1996-97 to 1997-98 (2 years)

[30] Silvicultural operations under the tenant farming formula began in 1993-1994. However, the first two years of implementation are not representative of the subsequent years and therefore they were not included.

7.1.5 Data Collection and Processing

The basic data for the study were collected in 1999 and 2000. These data come from a number of information management systems varying widely in structure from one organization and reference year to another. The basic data therefore had to be processed to make them compatible with our analytical grid.

Moreover, because they did not have all the data required for the study, our partners had to perform a number of estimates, for example on time allocation and on the distribution of the expenditures of the technical staff assigned to the different types of management operations.

As a result, we cannot expect to obtain extremely precise results. The study's indicators thus represent orders of magnitude, and must be analyzed accordingly.

The principal stages in data collection and processing can be summarized as follows:

1) Identification of the costs of supervision and technical support, and structuring by subcategory.

2) Evaluation of the distribution of technical support expenditures allocated to commercial silviculture, non-commercial silviculture and multi-resource activities.

3) Identification of the costs of operations. The parameters of these costs for tenant farming are described in Appendix 2.

4) Quantification of the area of commercial and non-commercial silvicultural operations by type of treatment.

5) Identification of the timber volumes harvested by product type.

6) Compilation of the results by period (average annual data).

7) Verification of the results with the organizations providing the basic data.

7.2 Results

Section 7.2.1 presents the overall results of the study for general supervision and technical support. Sections 7.2.2 to 7.2.4 examine in more detail the indicators associated with technical support for non-commercial silviculture, commercial silviculture and, in the case of tenant farming, multi-resource activities.

7.2.1 General Indicators

Table 21 shows the average annual costs of supervision, technical support and operations for each management formula. The ratios of supervision and technical support costs per dollar of operations are given in Table 22. In addition, Tables 23 and 24 indicate the distribution by subcategory of the costs of general supervision and technical support for the different management formulas.

Table 21. Average annual costs of supervision, technical support and operations, by management formula

Formula and period	Supervision	Technical support	Operations	Total
Tenant farming 1995-1998	$87 580	$185 475	$1 837 640	$2 110 695
Tenant farming 1999-2000	$118 527	$143 284	$1 786 919	$2 048 730
Groupement 1995-1998	$112 943	$211 841	$1 679 862	$2 004 646
Large private forest 1996-1998	$98 583	$120 105	$1 247 798	$1 466 486
TSFMA 1996-1998	$192 741	$151 100	$4 596 830	$4 940 671

Table 22. Average annual costs of supervision and technical support per dollar of operations, by management formula

Formula and period	$ Supervision / $ Operations	$ TS / $ Operations	Total
Tenant farming 1995-1998	5%	10%	15%
Tenant farming 1999-2000	7%	8%	15%
Groupement 1995-1998	7%	13%	19%
Large private forest 1996-1998	8%	10%	18%
TSFMA 1996-1998	4%	3%	7%

Table 23. Types of costs of supervision, by management formula

Formula and period	Promotion, recruitment	Inventories, plans and opportunity analyses	Structures, legal aspects, integration	Administrative and financial management	Total
Annual averages					
Tenant farming 1995-1998	$12 033	$14 208	$29 372	$31 968	**$87 581**
Tenant farming 1999-2000	$26 832	$34 775	$14 015	$42 905	**$118 527**
Groupement 1995-1998	$9 521	$21 081	$14 966	$67 375	**$112 943**
Large private forest 1996-1998	$0	$23 268	$8 368	$66 946	**$98 583**
TSFMA 1996-1998	$3 016	$53 999	$60 322	$75 403	**$192 741**
Percentages					
Tenant farming 1995-1998	14%	16%	34%	37%	**100%**
Tenant farming 1999-2000	23%	29%	12%	36%	**100%**
Groupement 1995-1998	8%	19%	13%	60%	**100%**
Large private forest 1996-1998	0%	24%	8%	68%	**100%**
TSFMA 1996-1998	2%	28%	31%	39%	**100%**

Table 24. Types of costs of technical support, by management formula

Formula and period	Individual plans, supervision and monitoring	Training and transfer of knowledge	Operations/ management support	Total
Annual averages				
Tenant farming 1995-1998	$106 139	$32 909	$46 428	**$185 476**
Tenant farming 1999-2000	$88 093	$17 353	$37 838	**$143 284**
Groupement 1995-1998	$162 347	$25 723	$23 772	**$211 842**
Large private forest 1996-1998	$108 095	$12 011	$0	**$120 105**
TSFMA 1996-1998	$135 990	$15 110	$0	**$151 100**
Percentages				
Tenant farming 1995-1998	57%	18%	25%	**100%**
Tenant farming 1999-2000	61%	12%	26%	**100%**
Groupement 1995-1998	77%	12%	11%	**100%**
Large private forest 1996-1998	90%	10%	0%	**100%**
TSFMA 1996-1998	90%	10%	0%	**100%**

A number of observations emerge in the light of these data:

- The annual costs of operations are similar for the tenant farms, the *Groupement* and the large private forest (Table 21). They are nearly three times as high for the TSFMA.

- At 7% to 8%, the supervision ratios are similar in 1999-2000 for the tenant farms, the *Groupement* and the large private forest (Table 22). As might be anticipated, the TSFMA shows the lowest supervision ratio of all the formulas studied.

- Administrative and financial management accounts for approximately two thirds of the costs of general supervision for the *Groupement* and the large private forest (Table 23). The proportion is substantially lower for the other management formulas, at approximately one third of the total supervisory costs.

- The technical support ratios for the tenant farms, the *Groupement* and the large private forest are similar in magnitude, at 8% to 13% (Table 22). The ratio for the TSFMA is substantially lower because of the economies of scale associated with this formula.

- The costs of technical support for the large private forest and the TSFMA are characterized by an absence of expenditures for operations and management support (Table 24). This type of support for small owners and tenant farmers represents one quarter of the costs of technical support for tenant farming and one tenth of those for the *Groupement forestier*.

- If we add the ratios of supervision and technical support per dollar of operations (Table 22), we obtain values of 15% to 19% for the different management formulas, with the exception of the TSFMA, at 7%.

7.2.2 Indicators Associated with Technical Support for Non-commercial Silviculture

Table 25 presents the components and values of the two technical support ratios calculated for non-commercial silviculture. In addition, Table 26 shows the distribution of the areas treated, by type of non-commercial operations.

Table 25. Technical support and operations (annual averages) for non-commercial silviculture, by management formula

Formula and period	Technical support		Operations			$ TS / ha operations	$ TS / $ operations
	Cost	% total TS	ha	Cost	$/ha		
Tenant farming 1995-1998	$69 394	37%	314	$89 612	$285	$221	77%
Tenant farming 1999-2000	$60 916	43%	479	$172 011	$359	$127	35%
Groupement 1995-1998	$120 927	57%	875	$474 619	$543	$138	25%
Large private forest 1996-1998	$53 375	44%	709	$144 060	$203	$75	37%
TSFMA 1996-1998	$75 550	50%	2201	$869 580	$395	$34	9%

Table 26. Types of non-commercial silvicultural operations, by management formula

Formula and period	Stand regen.	Stand tending[a]	Site prep.	Refor-estation	Plant. maint.	Other	Total
Average hectares per year							
Tenant farming 1995-1998	10	16	121	121	23	23	**314**
Tenant farming 1999-2000	58	17	123	127	106	48	**479**
Groupement 1995-1998	65	133	74	203	299	100	**875**
Large private forest 1996-1998	0	42	120	208	295	45	**709**
TSFMA 1996-1998	0	502	506	734	459	0	**2201**
Percentages							
Tenant farming 1995-1998	3%	5%	39%	39%	7%	7%	**100%**
Tenant farming 1999-2000	12%	4%	26%	26%	22%	10%	**100%**
Groupement 1995-1998	7%	15%	8%	23%	34%	11%	**100%**
Large private forest 1996-1998	0%	6%	17%	29%	42%	6%	**100%**
TSFMA 1996-1998	0%	23%	23%	33%	21%	0%	**100%**

[a] Mostly composed of precommercial thinning.

The following observations stand out in the light of these results:

- Non-commercial tenant farming operations have increased significantly over the recent years. However, the costs associated with their technical support have remained relatively stable, resulting in a significant reduction in the ratio of technical support per hectare of operations (from $221 to $127/ha).

- The increase in non-commercial tenant farming operations results primarily from an increase in plantation maintenance operations. The plantation maintenance program was in fact introduced after the other reforestation activities.

- The ratios of technical support per hectare of non-commercial operations are similar for tenant farming in 1999-2000 and for the *Groupement forestier*, at approximately $130 per hectare. The technical support ratio is substantially lower for the large private forest ($75/ha), and even lower for the TSFMA ($34/ha), as a result of economies of scale.

- The results for technical support ratios per dollar of non-commercial operations are similar to those of the ratios per hectare of operations. However, the former are difficult to interpret because of the large differences in the average costs of operations, which vary from $200 to $540/ha depending on the management formula. The types of operations associated with each management formula (Table 26) are partially responsible for these differences in average costs.

7.2.3 Indicators Associated with Technical Support for Commercial Silviculture

Table 27 shows the average annual cost of technical support and the data on commercial silvicultural operations. The values of the two technical support ratios (per m^3 harvested and per ha treated) appear in Table 28. Moreover, the types of commercial operations and the types of volumes harvested under each management formula appear in Tables 29 and 30, respectively.

Table 27. Technical support and operations (annual averages) for commercial silviculture, by management formula

Formula and period	Technical support		Operations		
	Cost	% total TS	(m^3_s)	(ha)	(m^3/ha)
Tenant farming 1995-1998	$72 945	39%	31 291	326	96
Tenant farming 1999-2000	$45 471	32%	38 428	357	108
Groupement 1995-1998	$90 914	43%	35 100	648	54
Large private forest 1996-1998	$66 730	56%	55 050	607	91
TSFMA 1996-1998	$75 550	50%	145 053	1813	80

Table 28. Technical support ratios for commercial silviculture, by management formula

Formula and period	$ TS / m^3 harvested	$ TS / ha treated
Tenant farming 1995-1998	$2.33	$224
Tenant farming 1999-2000	$1.18	$127
Groupement 1995-1998	$2.59	$140
Large private forest 1996-1998	$1.21	$110
TSFMA 1996-1998	$0.52	$42

Table 29. Types of commercial silvicultural operations, by management formula

Formula and period	Stand regeneration	Stand tending	Total
Average number of ha per year			
Tenant farming 1995-1998	189	138	**326**
Tenant farming 1999-2000	218	140	**357**
Groupement 1995-1998	137	511	**648**
Large private forest 1996-1998	470	136	**607**
TSFMA 1996-1998	1142	671	**1813**
Percentages			
Tenant farming 1995-1998	58%	42%	**100%**
Tenant farming 1999-2000	61%	39%	**100%**
Groupement 1995-1998	21%	79%	**100%**
Large private forest 1996-1998	78%	22%	**100%**
TSFMA 1996-1998	63%	37%	**100%**

Table 30. Types of volumes harvested, by management formula

Formula and period	Hardwood saw timber	Hardwood pulp	Softwood saw timber	Softwood pulp	Other	Total
Average number of m^3, per year						
Tenant farming 1995-1998	9 943	2 379	17 629	0	1 340	31 291
Tenant farming 1999-2000	10 661	2 895	22 496	0	2 375	38 427
Groupement 1995-1998	8 121	18 771	6 959	15	1 233	35 100
Large private forest 1996-1998	9 196	17 999	14 699	13 156	0	55 050
TSFMA 1996-1998	9 724	note[a]	95 075	40 254	0	145 053
Percentages						
Tenant farming 1995-1998	32%	8%	56%	0%	4%	100%
Tenant farming 1999-2000	28%	8%	59%	0%	6%	100%
Groupement 1995-1998	23%	53%	20%	0%	4%	100%
Large private forest 1996-1998	17%	33%	27%	24%	0%	100%
TSFMA 1996-1998	7%	note[a]	66%	28%	0%	100%

[a] Included in hardwood saw timber

These data lead to the following observations:

- Tenant farming and the *Groupement forestier* have similar harvest levels, at approximately 35 000 m^3_s per year. The volumes harvested in the large private forest are slightly higher, while those of the TSFMA are substantially higher (Table 27).

- The annual costs of technical support for tenant farming declined by one third between 1995-1998 and 1999-2000, while the volumes harvested increased by one quarter (Table 27). Consequently, the technical support ratios for 1999-2000 are approximately one half of those for 1995-1998 (Table 28).

- The costs of technical support per hectare treated are similar for tenant farming in 1999-2000, the *Groupement forestier* and the large private forest. They are one third as high for the TSFMA (Table 28).

- The costs of technical support per cubic metre harvested for the *Groupement forestier* are twice as high as those for tenant farming in 1999-2000 or the large private forest (Table 28). This difference is explained by the fact that the average volume harvested per hectare is half as high in the case of the *Groupement* (Table 27). In fact, nearly 80% of the *Groupement*'s commercial silvicultural operations consist of stand-tending cuts (Table 29). In comparison, stand-tending cuts represent only 20% to 40% of total cutting for the other management systems. Moreover, as indicated in Table 30, the *Groupement* has the highest proportion of hardwood pulp volumes (53%).

It is interesting as well to note that the technical support ratios per hectare for commercial silvicultural operations are similar in magnitude to those for non-commercial silvicultural operations. In addition, the 1999-2000 ratio for tenant farming is the same for both types of silviculture, at $127/ha. If we divide the technical support ratios by this value, we obtain Table 31, which illustrates the similarity of the ratios for the two types of silviculture.

Table 31. Transformation of technical support ratios for silviculture ($127/ha =1)

Formula and period	Ratio of non-commercial silviculture	Ratio of commercial silviculture
Tenant farming 1995-1998	1.7	1.8
Tenant farming 1999-2000	1.0	1.0
Groupement 1995-1998	1.1	1.1
Large private forest 1996-1998	0.6	0.9
TSFMA 1996-1998	0.3	0.3

7.2.4 Indicators Associated with Technical Support for Multi-resource Activities

As noted in section 7.1, this group of indicators applies only to forest tenant farming. The results for the two periods selected are shown in Table 32. The following observations can be made:

- The technical support expenditures for multi-resource activities represent approximately one quarter of the total expenditures for technical support of tenant farming.

- The cost of technical support for multi-resource activities represents approximately 10% of the cost of multi-resource operations for tenant farming. This technical support ratio is similar to those observed in Table 22 for all activities of the different management formulas, with the exception of the TSFMA, which has a much lower ratio.

Table 32. Average annual costs of technical support and operations for multi-resource activities

Formula and period	Technical support		Operations	$ TS / $ operations
	Cost	% TS total	Cost	
Tenant farming 1995-1998	$43 136	23%	$441 209	10%
Tenant farming 1999-2000	$36 896	26%	$426 699	9%

7.3 Principal Observations

A number of observations arise from the results of this study.

First, the period of 1999-2000 is more representative of the operational conditions of tenant farming than the period of 1995-1998. In fact, the study demonstrates that some of the parameters of tenant farming, such as the level of silvicultural operations and the costs of technical support, have evolved over the recent years, reducing the relative costs (ratios) of technical support. In addition, the anticipated evolution of these parameters in future years should confirm the reduction in the relative costs of technical support activities for tenant farming. It should be noted that the other formulas under study have been in operation for many years, while tenant farming has only been undergoing testing since 1994.

Expressed per dollar of operations, expenditures for general supervision of tenant farming are similar to those for the large private forest and the group component of the *Groupement forestier*. They are, however, higher than those for the TSFMA.

As regards the costs of technical support for silvicultural activities, the ratios per hectare of operations are the most revealing. They show that the costs of technical support for tenant farming are similar to those for the *Groupement forestier* and, in the case of commercial silviculture, to those for the large private forest. The costs of technical support for the TSFMA, on the other hand, are substantially lower, with values 70% lower than those for tenant farming and the *Groupement forestier*. The low costs obtained for the TSFMA appear to be attributable primarily to economies of scale linked to the scope of the operations performed under this management formula.

In addition, technical support expenditures for the multi-resource activities of tenant farming are significant, representing one quarter of the total expenditures for technical support for this management formula. However, the study does not allow us to compare the cost of this type of technical support to similar components for other management formulas.

On the whole, the costs of general supervision and technical support for tenant farming are comparable to those for the GFELT. The two formulas show a number of common characteristics, including the level of mechanization of harvesting operations, the average size of the blocks concerned, and the operational and management support provided to woodlot owners and tenant farmers. As we have seen, the GFELT is representative of the other forestry group ventures in the Lower St. Lawrence region in terms of the costs of technical services. We can therefore conclude that the implementation of the tenant farming concept in a given region would be reflected by general supervision and technical support costs similar to those for the forestry group ventures in that region.

CHAPTER 8: SUMMARY AND ISSUES

This chapter summarizes the results of the individual studies (surveys, costs of supervision and technical support, socio-economic impact) on the basis of the four criteria used for this evaluation. It also describes the principal issues raised by the testing and extension of the concept of forest tenant farming.

8.1 Viability of the Tenant Farms

The viability of the tenant farms could have been estimated by determining, more or less arbitrarily, a net profit threshold above which an operation would be considered profitable. We preferred to collect information from the tenant farmers on a range of indicators reflecting various facets of the criterion of viability, including:

- the tenant farmers' working conditions;
- their satisfaction with the net profits of the tenant farms;
- factors affecting the profitability of the tenant farms;
- the tenant farmers' perception of the probable evolution of their profits;
- the non-monetary benefits enjoyed by tenant farmers;
- their intention to remain or not in tenant farming in the medium and long terms.

In addition, we interviewed former tenant farmers to determine their specific views on some of these aspects.

Our indicators show that the tenant farms are viable businesses. In fact, the tenant farmers are generally satisfied with the net profits of their tenant farms. The vast majority even anticipate an increase in their profits over the next few years, and the reasons they give to account for this increase are plausible. Their status as tenant farmers also offers them a number of non-monetary benefits. Similarly, their intention to remain in tenant farming in the medium term and, in most cases, in the long term, is in itself an overall indicator of viability. Moreover, all the former tenant farmers interviewed feel that most of the tenant farms will be viable businesses in the medium term.

However, the question of the profitability of the tenant farms raises a number of issues:

Fixing the territorial boundaries of the tenant farms

The former tenant farmers have identified lack of profitability as their principal reason for leaving tenant farming. In their opinion, this lack of profitability was attributable primarily to the initial overestimation of the timber resources (quality, quantity) available on certain tenant farms. Thus, the division of a site into tenant farms must be based on a thorough knowledge of the timber resources and of parameters such as operating costs and resource markets.

Poor working conditions

According to a number of tenant farmers, some forestry operations involve excessive physical effort or poor working conditions for themselves and their employees. Some would like to alleviate this problem by mechanizing their cutting operations. It should be noted in this connection that the average age of the tenant farmers and their employees is about 40, and that health is the first condition identified by the tenant farmers as essential to their continuation in tenant farming in the medium and long terms.

In this context, the Model Forest and three tenant farmers began, in the spring of 2000, the first phase of a test on the mechanization of harvesting operations. This test is designed to measure the impact of small-scale mechanization on the profitability of cutting operations and on their environmental and social acceptability. The final results will be available in late 2001.

Management of non-timber activities

None of the tenant farmers who initially expected to become involved in recreational management has yet achieved this objective. Similarly, the tenant farmers' medium-term expectations for multi-resource income are lower than they were at the beginning of the project. The tenant farmers and former tenant farmers identified a number of reasons accounting for this situation, including inadequate structures for the collective management of non-timber activities, limited demand because of the distance from major urban centres, and the size of the investments required to develop tourist facilities. This is one of the most complex issues associated with tenant farming, and it would be premature to draw any conclusions in this connection. We feel that this problem should receive special attention in the coming years, particularly through the examination of comparable initiatives in Quebec and elsewhere in Canada.

Profits influenced by timber markets

Wood production will remain the principal source of profits for the tenant farms in the medium term, despite the efforts made to diversify their sources of income. Consequently, the profit levels of the tenant farms will remain dependent on fluctuations in the timber markets, particularly those affecting the hardwood pulp market.

In the same vein, a majority of tenant farmers and former tenant farmers feel that the agreement on the destination of timber cut on the *seigneuries* of the Model Forest has a negative impact on their income from timber sales. According to the Model Forest's technical team, this perception is linked to the bonus normally paid to producers who market significant volumes of saw timber. The agreement on the destination of timber could thus reduce the amount of this bonus.

According to the data obtained from the tenant farmers and former tenant farmers, such an impact on their income derived from timber sales would be of approximately 5% to 10% for saw logs and peeler logs (the categories covered by the agreement), and of 3% to 6% for the total income derived from timber sales (all categories combined). A decline of 5% in the income derived from timber sales for an average tenant farm means a decline of approximately 10%, or $4 000, in its net profits. Consequently, any extension of tenant farming should preferably avoid specific restrictions on the marketing of timber.

Level and use of stumpage fees

The viability of the tenant farms is also dependent on the level of the stumpage fees collected and the use to which they are put. In this connection, it should be noted that in 1999-2000, the stumpage fees for tenant farms were approximately 30% lower than those for holders of TSFMAs in the adjoining Crown forests. We have not attempted to determine whether the methods used to calculate stumpage fees for tenant farms and Crown forests are appropriate.[31] However, it seems reasonable to us that the rates for tenant farming should be lower than those for Crown forests, for two reasons:

- The agreement on the destination of timber cut on the seigneuries reduces the income from timber sales.

- On average, the tenant farms' harvesting costs are higher than those incurred by businesses operating on adjoining Crown Forests. This is due in part to differences in operating scales, splitting up, and mechanization. Testing the mechanization of cutting operations in the context of tenant farming will make it possible to evaluate the potential of mechanization to decrease the harvesting costs.

It also seems reasonable to us that a portion of the stumpage fees collected should be reinvested on site, particularly in the form of forest roadwork. The sums used for this purpose should decline, however, as the road network serving the tenant farms is completed.

[31] A number of different approaches are used to estimate the market value of standing timber, which is used to establish the level of the stumpage fees. The principal factors affecting the market value of standing timber include timber characteristics, site conditions, costs of access to the resource, and fluctuations in the timber markets. (Fiches thématiques en recherche socio-économique. Groupe d'action sur les aspects socio-économiques du secteur forestier. Ministère des Ressources naturelles du Québec et Forêt Québec, Mars 2000).

However, we question the relevance of reinvesting a portion of the stumpage fees in a fund to compensate tenant farmers for improvements they make to the site. It should be noted that approximately 30% of the stumpage fees collected are placed into such a fund. Three main reasons explain our position:

- As for the Model Forest, we deem it reasonable to return part of the stumpage fees to the landowner. However, the compensation fund is one of the main factors currently preventing the Model Forest from doing so.

- In the same vein, the compensation fund does not seem essential to reach a balance between the rights of the tenant farmers and their contractual responsibilities.

- Despite the fact that we have not asked any specific question to the tenant farmers and former tenant farmers on the relevance of the compensation fund, four of them have mentioned that the fund was not a requisite to ensure the profitability of their farms. We do not know, however, if this situation can be extended to the majority of the tenant farmers. In cases of financial dependence on the fund, factors causing such a dependence should be examined.

In the context of the Model Forest, only the revenue losses related to the agreement on the destination of timber could justify the existence of such a fund, assuming that these losses are not already fully offset by the levels of stumpage fees.

Access to forest management subsidies

While subsidies represent only 13% of the tenant farms' revenues, they are necessary to ensure the carrying out of activities essential to the management of the forest resources. The subsidies for the management of tenant farms come primarily from the Private Forest Development Program (administered by the regional agency for private forest development) and from Component 2 of the Forest Resource Development Program.[32] The management activities of the tenant farms are eligible for these subsidies since, for the purposes of these programs, tenant farmers are considered forest owners.

Balance between supervision and freedom of action

A number of tenant farmers and former tenant farmers reported some discomfort with respect to the supervision of their activities by the Model Forest. In their opinion, unnecessarily tight control has compromised their freedom of action, particularly with respect to the direction in which they choose to take their business. Besides, some former tenant farmers identify this conflict as their reason for leaving tenant farming.

[32] The other subsidies for forest management activities on the tenant farms come from the portion of the stumpage fees reinvested in the project.

We share the opinion of most tenant farmers that some form of administrative and technical supervision is necessary to guarantee sound forestry practices. Supervision should thus focus on the following functions:

- planning of activities, to ensure the relevance of the operations and their compliance with the conditions of the multi-resource management plan, particularly in the preparation of the annual operational plans;
- regulation of silvicultural operations, to ensure compliance with the standards of the forest resource development programs;
- regulation of cutting levels, to ensure respect for the timber supply of the tenant farms.

Since the responsibility for advising and regulating is taken on by the same individuals, it is hardly surprising that tensions may arise between the members of the technical team and some tenant farmers. In this context, it is important that the tenant farmers recognize the limits of the rights granted to them over resources that they do not own. These resulting restrictions must be considered from the earliest stages of the tenant farmer selection process. At the same time, administrative and technical supervision should be minimized to encourage the tenant farmers' spirit of initiative.

8.2 Costs of General Supervision and Technical Support

The study on the costs of general supervision and technical support for forest tenant farming indicates that these costs are similar to those for the *Groupement forestier de l'Est du Lac Témiscouata*, which is representative in this connection of the other forestry group ventures in the Lower St. Lawrence region. We can therefore conclude that the implementation of the tenant farming concept in a given region would be reflected by general supervision and technical support costs similar to those for the forestry group ventures in that region.

Examination of the costs of general supervision and technical support reveals two specific issues:

Higher costs than those for TSFMAs

Our results also show that the costs of general supervision and technical support for tenant farming are higher overall than those for TSFMAs. This situation is attributable primarily to the economies of scale inherent in the scope of the TSFMA operations and to the support provided to tenant farmers in the areas of operations and management. The implementation of tenant farming on Crown lands would thus entail supervision and technical support costs similar to those for private forests.

Supplementary costs during the implementation phase

In the years immediately following the introduction of tenant farming, most of the relative costs (ratios) for supervision and technical support were higher than after five years of testing. For example, expenditures for technical support to commercial silviculture declined by one third between 1995-1998 and 1999-2000, while the corresponding operations increased slightly. This situation is normal in view of the specific needs that are encountered during the implementation period, particularly in terms of familiarity with the site and the support required by the tenant farmers. Consequently, additional supervision and technical support costs must be anticipated during the implementation phase of a forest tenant farming project.

8.3 Socio-economic Impact

We have seen that the impacts generated by tenant farming are concentrated primarily on the local and regional levels. These impacts have been estimated in terms of the workforce associated with the operation of the tenant farms, the operating expenditures of the tenant farms, the consumer expenditures of the tenant farmers and their employees, and the processing activities applied to the timber harvested. Tenant farming also involves significant budget savings in employment insurance benefits.

It should also be noted that the employees of the tenant farmers report that they are satisfied with their jobs. They particularly appreciate the opportunity to work close to home, their relation with their employers, the level of job safety and the opportunities for training that are available to them.

Four principal issues can affect the scope and nature of the impacts generated by tenant farming:

Number of tenant farms in each area

The scope of the local and regional impacts generated by tenant farming depends largely on the number of tenant farms established in a given area. Consequently, it seems preferable to introduce tenant farming in blocks of ten or more tenant farms, as the Model Forest has done. This group approach also offers the following advantages:

- it ensures a critical landmass for the management of non-timber resources - an entire lake, for example;
- it ensures a critical landmass justifying the participation of local and regional stakeholders in the decision-making process;
- it creates conditions conducive to mutual assistance and cooperation;
- it provides economies of scale in the areas of supervision and technical support.

Size of tenant farms and allowable cut

The tenant farming approach implies the calculation of the allowable cut for each of the tenant farms. Recent simulations indicate, however, that the allowable cut of the Model Forest's seigneuries would be larger if they were calculated for each seigneurie, rather than for the individual tenant farms.[33] The site characteristics of the tenant farms may result in a significant reduction in the allowable cut for a given area, and thus lead to a reduction in stumpage fees and some economic impacts, compared to other methods of management. On the other hand, tenant farming promotes integrated management of forest resources, thus generating additional profits and impacts compared to more sectoral management approaches. In addition, as we have seen, tenant farming creates primarily local and regional impacts, which is not necessarily the case with other management methods.

Mechanization of harvesting operations

The strong trend in Quebec toward mechanization of harvesting operations should, in the medium term, affect the direct workforce generated by tenant farming. This issue is examined in the test currently conducted by the Model Forest on small-scale mechanization of harvesting operations.

Internalization of impacts

There are two principal reasons for the internalization of the impacts of tenant farming at the local and regional levels: the management method itself and the characteristics of the economy of the Lower St. Lawrence region. Among the regional characteristics, we note the presence of a number of medium-sized municipalities and a regional centre offering most of the goods and services required by the population. The degree of impact internalization may thus vary with the region in which tenant farming is implemented.

8.4 Potential for Applying the Formula

This section begins with a brief review of the views of the tenant farmers and former tenant farmers on the potential for applying tenant farming outside of the Model Forest. It then examines some factors that may influence the potential extension of the formula.

All the tenant farmers and former tenant farmers interviewed feel that the forest tenant farm model can be applied outside the LSLMF. Virtually all tenant farmers anticipate the extension of the model to Crown lands, particularly those close to municipalities. It should be noted that most forest lands in Quebec that are large enough to permit the establishment of groups of tenant farms are publicly owned. The expressed preference for sites located near communities is explained in part by the

[33] In theory, the total allowable cuts for the various subdivisions of a site should be equivalent to the allowable cut calculated for the site as a whole. In most cases, however, stand structure places a greater constraint on the maximization of the allowable cut when the territorial unit is smaller.

advantages of working close to home and by the local communities' feeling of ownership of the surrounding lands.

From this standpoint, the tenant farming formula offers a number of advantages:

Promotes integrated management of forest resources

The rights granted to tenant farmers over a range of forest resources promote the integrated management of these resources. It may, however, be possible for tenant farmers and those holding rights to non-timber resources (ZECs and outfitters, for example) to work together in the same area, for two reasons. First of all, the profitability of the tenant farms is based primarily on the management of timber resources. Second, small-scale silviculture is generally more compatible than the large-scale silviculture of industrial forestry with integrated management of forest resources.

Diversifies the forms of tenure on Crown land

It is desirable to diversify the forms of tenure on Crown lands. In fact, each type of tenure has its own advantages and disadvantages, and only a variety of tenures can respond to the diversity of contexts associated with the management of forest resources. The parameters of this diversity include the characteristics of the forest lands, the regional economic contexts and the aspirations of the local communities.

Moreover, the establishment of tenant farms on Crown lands would not constitute a precedent since formulas involving the leasing of forest lands already exist in Quebec and other provinces, particularly for maple syrup and blueberry production.

Flexibility of application

The tenant farming concept can take on a number of forms depending on the context in which it is applied. The possible variations depend on:

- the type of tenure (public or private);
- the type of rights granted to the tenant farmers (timber resources, maple syrup production, wildlife resources, etc.);
- the legal structure of the tenant farms (companies, businesses operated by self-employed workers);
- the group structure adopted by the tenant farmers (cooperative, etc.);
- the promoters and partners, including the agency responsible for general supervision and technical support (forestry group venture, forest cooperative, group of organizations, etc.).

For example, in the spring of 2000, Maibec Industries announced the establishment of a tenant farm on land owned by the company in the counties of l'Islet, Montmagny and Bellechasse. Inspired by the experience of the Lower St. Lawrence Model Forest, this initiative includes timber production and the operation of a sugarbush, an outfitter and an inn. In addition, a study is currently being carried out in New Brunswick to evaluate the possible application of different variations on tenant farming within the specific context of that province.

Combines entrepreneurial and community approaches

While it relies on the tenant farmers' spirit of enterprise, tenant farming can also be viewed as a form of community economic development. In fact, the concept of tenant farming involves three key characteristics of community economic development:[34]

- the active participation of the community, particularly in establishing objectives;
- the integration of economic and social development based on a comprehensive, non-sectoral approach;
- the territorial approach, in which the community is defined on a geographic basis.

Improved social climate

Tenant farming responds to the growing need of local communities to control the development of their natural and human resources.

Through its participatory component, tenant farming encourages the local population to assume responsibility for the management of neighbouring forest resources. It is therefore less likely that scapegoats will be identified when errors occur.

However, as the experience of a number of former tenant farmers from the *Seigneurie du Lac-Métis* indicates, the promoters of a tenant farming project must obtain a local consensus in favour of their project before implementing it in a given area.

The possible extension of tenant farming also raises a number of issues:

Applications for tenant farming

To date, a large number of people have shown an interest in becoming tenant farmers. During the initial recruitment campaign in 1994, the Model Forest received 346 applications from Quebec and other provinces for 27 positions as tenant farmers. In 1998, a request for applications restricted to the Lower St. Lawrence region produced 105 applications for 5 vacant positions.

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[34] Groupe Éconov Développement Inc. 1993. L'approche du développement économique et communautaire et sa situation au Québec : Rapport final. Presented to the Federal Office of Regional Development - Quebec. Ottawa, Ontario. 90 p.

This interest is confirmed by a survey of 439 forestry workers in the Lower St. Lawrence region, performed in late 1996 and early 1997[35]. In response to a question asking them to identify their ideal job, 9% of the respondents indicated that they would like to become tenant farmers and 21% forest farmers. It is important to note that tenant farming represents one way of circumventing the impossibility, for most individuals interested in becoming forest farmers, of acquiring sufficient forest land to ensure an adequate standard of living without recourse to social assistance.

Cooperation by the Government

The Government of Quebec supports the testing of tenant farming through its forest resource development programs. However, the Quebec Government would greatly facilitate the extension of the tenant farming concept by restructuring the rights to certain Crown lands located near local communities. Restructuring would allow the introduction not only of tenant farming projects, but also of other initiatives consistent with the inhabited forest concept. This is one of the principal demands of the Maniwaki Declaration adopted and released in October 2000, on the occasion of the first provincial conference on the inhabited forest.

The Government can also facilitate the introduction of forest tenant farming projects through training programs, tax incentives and remission of stumpage fees[36].

Cooperation of the forest industry

The cooperation of the forest industry is also required, notably in providing technical support, opening up processing markets and collaborating in the restructuring of land tenure in Crown forests.

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[35] Stanek, O. 1997. Les travailleurs forestiers du Bas-Saint-Laurent. UQAR-Grideq. 222 p.

[36] Adapted from Bouthillier, L. 1992. Rendement accru et développement social: Les nouvelles tendances en aménagement forestier au Canada. Cahier 92-10. Département des sciences forestières, Université Laval, Sainte-Foy, Québec. 54 p.

CONCLUSION

We have examined the socio-economic viability of the concept of forest tenant farming on the basis of four criteria and a series of subsidiary indicators. The results for each of the criteria can be summarized as follows:

- The tenant farms are viable businesses that will continue to derive their profits primarily from wood production in the medium term.

- The costs of general supervision and technical support reflect the characteristics of the formula and are similar to those incurred by forestry group ventures operating in Quebec private forests.

- The socio-economic impacts of tenant farming are tangible and concentrated at the local and regional levels.

- The potential for extending the model is good, particularly in Crown forests located near municipalities.

The testing and extension of tenant farming, however, raise a number of challenges which we have identified in the form of issues. These include the joint management of non-timber activities, the balance to be reached between supervision and freedom of action, the impact of the territorial limitations of the tenant farms on the allowable cut, and Government cooperation.

Taken together, these results confirm the socio-economic viability of forest tenant farming as tested by the Lower St. Lawrence Model Forest. However, only the establishment of forest tenant farms in a variety of contexts will make it possible, in time, to determine the potential for the extension of forest tenant farming.

Appendix 1: Evaluation of Budget Savings in Employment Insurance Benefits

Basic Data

This evaluation is calculated on the basis of the number of weeks of employment insurance benefits received by future tenant farmers in the two years prior to entering tenant farming.

22 of the 25 tenant farmers were receiving unemployment insurance:

- 17 selected in 1993 or 1994;
- 5 selected in 1998.

The three tenant farmers who did not receive benefits were selected in 1993 and 1994.

On average, the future tenant farmers received benefits for 46.4 weeks over these two years, or 23.2 weeks per year (22.4 weeks for the tenant farmers selected in 1993-1994 and 25.8 weeks for those selected in 1998).

Gérald Dubé, an economist with Human Resources Development Canada in Rimouski, has provided us with the following data:

- The regional average benefits for forestry workers (code 8422, silviculture and forestry) are, for May 1997, 22.8 weeks at $339.66/wk and, for May 1998, 23.5 weeks at $338.95/wk, for an average of 23.2 weeks at $339.30/wk (approximately $340/wk). The average duration of benefits for forestry workers in the region is thus the same as for the future tenant farmers. It should be noted that the average benefit for forestry workers in the region is higher than that for all workers in the Lower St. Lawrence.

- Extensive changes to the employment insurance plan came into effect between July 1996 and January 1997. These changes led to a reduction of approximately 1.5 weeks in the average duration of benefits for the Lower St. Lawrence region. This does not appear, however, to have had any significant impact on the eligibility of seasonal workers for benefits.

Calculation of Budget Savings

For each of the 17 individuals who became tenant farmers in 1993 and 1994, the average duration of benefits has been reduced by 1.5 weeks to reflect the subsequent tightening of the conditions governing the plan. The average annual saving for each of these individuals can thus be calculated as follows:

$340/wk X (22.4 wk - 1.5 wk) = $7 106

For the five individuals who became tenant farmers in 1998, the average annual saving is calculated as follows:

$340/wk X 25.8 wk = $8 772

The weighted average for each of the 22 tenant farmers who received benefits is thus $7 485 per year, for total budget savings of approximately $165 000 per year.

Appendix 2. Parameters of the Cost of Tenant Farming Operations

The costs of tenant farming operations have been quantified on the basis of five distinct parameters. They are described briefly in this section.

1) **Tenant farm operating expenditures**. These are obtained from the financial reports of the tenant farms. They are used to estimate the total cost of the operations performed by the tenant farmers, with the exception of the cost of the time devoted by the tenant farmers to management operations.

2) **Costs of non-commercial silvicultural operations**. These costs are calculated by multiplying the quantities of the operations by the corresponding unit costs. The latter were estimated with the assistance of the LSLMF.

3) **Cost of the time devoted by tenant farmers to forest management operations**. The expenditures listed in the financial reports of the tenant farms do not include a wage equivalent for the tenant farmers.[37] To estimate the true cost of the tenant farm operations, we must therefore include a wage equivalent when the tenant farmers perform management operations themselves. The average number of weeks worked by the tenant farmers for each type of operation is taken from the survey of the tenant farmers. The weekly wage equivalent corresponds to the average wage paid to the employees of the tenant farmers for each type of operation, and is taken from the employee survey.

4) **Operating expenditures of the tenant farmers' outfitting businesses**. These are taken from the financial reports of these organizations.

5) **Costs of operations performed by the Model Forest**. These costs are taken from the financial reports of the LSLMF.

[37] In the few cases where such equivalents are indicated, they have been excluded from the calculation of the tenant farms' operating expenditures.