The Evolution of Devolution

Evaluation of the Community Forest Agreement in British Columbia

by

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Abstract

In 1998, the government of British Columbia introduced a new form of tenure for community forestry. The Community Forest Agreement (CFA) was envisioned as a unique institutional mechanism for devolution, providing resource-dependent communities and First Nations in B.C. with the authority to set the direction of forest management in their locale, and to create local benefits. Relative to the industrial status quo, there were high expectations of community forestry and what it might achieve.

This study empirically tested some of these expectations with respect to B.C.'s Community Forest Program. Taking a realist approach to evaluation, a variety of qualitative research methods were used to critically assess the structure, performance, and outcomes of the CFA.

Analysis of the CFA revealed that its structure is virtually identical to tenures designed for industrial forestry with a few minor exceptions. In the current tenure regime, the CFA devolves limited power over strategic decisions and community control largely resides at the operational level, affecting on-the-ground aspects of timber harvesting rather than enabling a broader and more holistic approach to forest management.

Outcomes of the CFA generally did not satisfy expectations that communities would commercially harvest botanical non-timber forest products, develop capacity for value-added wood processing, and utilize more environmentally-sensitive harvesting treatments. The study did find that CFAs supported local employment and were more labour intensive than industrial licensees in harvesting and silvicultural activities.

Assessing the CFA structure and the on-the-ground outcomes side-by-side, this study suggests that the impediments to realizing a more holistic form of community forestry likely have their roots in the institutional mechanism itself, rather than in the efforts of communities. Flowing from the evaluation are

recommendations for government to consider devolving more power over key strategic management decisions and increasing the size of CFAs to improve their economies of scale; and recommendations for communities to build their capacity and critical social mass to leverage policy changes that may further the evolution of community forestry in B.C.

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List of Acronyms and Abbreviations

AAC	Allowable Annual Cut
BCCFA	British Columbia Community Forest Association
CBNRM	Community-Based Natural Resource Management
CFA	Community Forest Agreement
CFAC	Community Forest Advisory Committee
FL	Forest Licence
FRPA	Forest and Range Practices Act
FSP	Forest Stewardship Plan
FTE	Full Time Equivalent
MOFR	Ministry of Forests and Range
NGO	Non-governmental organization
NTFP	Non-Timber Forest Product
PAR	Participatory Action Research
RESULTS	Reporting Silviculture Updates and Landstatus Tracking System
SEA	Socio-Economic Analysis
TFL	Tree Farm Licence
TSA	Timber Supply Area
WL	Woodlot Licence

Acknowledgements

Chapter 1

Introduction

1.1 The Global Movement Towards Community Forestry

Efforts towards sustainability as an overarching societal goal have prompted changes in natural resources management. More fundamentally, these efforts have led to a critical examination of how management decisions are made, and by whom. Public participation – particularly the participation of resource-dependent communities – is globally recognized as an imperative of sustainable development (UNCSD 1992; WCFSD 1999). Participation has also been embraced, at least conceptually and rhetorically, as a central precept in the emerging paradigm of sustainable forest management (Beckley et al. 2006).

Community forestry is regarded as a practical strategy to facilitate communities' active participation in sustainable forest management (Brendler and Carey 1998). The most basic definition of community forestry is local peoples' involvement or control over forests for local benefit. It differs from other forest management regimes, as Duinker et al. (1994, 712) noted, according to "a) who decides; b) who benefits; and c) how broad ranging are the management objectives".

The concept of community forestry finds its roots in the field of international development. It was popularized in the early 1980s as a grassroots and 'people-centred' approach to managing natural resources that sought to balance economic development and environmental conservation objectives (Brosius et al. 1998; Agrawal and Gibson 1999). This was a direct response to the perceived failure of governments, particularly in the 'third world', in addressing problems of poverty, social justice, and ecological degradation (Brohman 1996; Mohan and Stokke 2000). Compared to regimes controlled by centralized government agencies or corporations, community forestry has been portrayed as an alternative model that is potentially more equitable, sustainable, and responsive to changes in local conditions (Meynen and Doornbos 2004).

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Resonating with ideals of democratic empowerment, community forestry has become the focus of an emerging global social movement. Support is reflected in intergovernmental declarations and action plans (WCFSD 1999; UNFF 2002), in the publications of development agencies (World Bank 1998), and the campaigns of a variety of non-governmental organizations (INFC 1999; GACF 2006; RRI 2007). A growing volume of scholarly work has also explored various aspects of community forestry, and community-based natural resource management more generally (Ostrom 1990; Gibson et al. 2000; Ribot 2004; Colfer and Capistrano 2005). According to Gauld (2000, 230), "community-based forestry is possibly one of the most important developments in forest policy…since the adoption of scientific forestry in the latter half of the last century". Needless to say, there are extremely high expectations of community forestry, and what it might achieve.

While diverse conditions and numerous variables affect the success of community forestry, a critical policy-related factor is that local people can participate meaningfully in decisions affecting the use, management, and distribution of benefits from forests (Ostrom 1999; Agrawal 2001; Pagdee et al. 2006). To enable community forestry in jurisdictions where control over forests has been centralized, often through colonization, essentially a reverse course is required – that is, the *de*centralization and devolution of forest management. This process presents governments with a challenge of designing institutional arrangements that transfer management responsibilities and decision-making authority from the state to the community. It may also involve overcoming political resistance to alternatives that diverge from a typically centralized status quo.

In spite of these challenges, more than sixty countries have reportedly implemented institutional reforms for community-based management (White and Martin 2002). Most of these reforms have occurred in the global South, though several examples can be found throughout the North, including in Japan, Italy, the United States, and Canada (see McKean 1996; Merlo 1995; Baker and Kusel 2003; Teitelbaum et al. 2006). While these initiatives tend to be relatively small in size and number, governments' resolve to support community forestry

appears to be increasing. For instance, Canada's National Forest Strategy includes an objective to "Expand the area and use of community-based tenure systems and resource allocation models in remote, rural regions of Canada to increase benefits to Aboriginal Peoples and forest-based communities" (NFSC 2003, 13).

1.2   Community Forestry in British Columbia

Of the Canadian provinces, British Columbia (B.C.) appears to have made the most progress towards enacting policy reforms for community forestry (Teitelbaum et al. 2006). In 1998, the government of B.C. launched a pilot project to design and test a new forest tenure, called the Community Forest Agreement (CFA). The purpose of the CFA was to "increase the direct participation of communities and First Nations in the management of local forests and to create sustainable jobs", and was intended to be "the first step towards giving communities the flexibility to manage local forests for local benefits" (MOF, June 16 1998).

The introduction of the CFA represented a significant shift in provincial forest policy because historically there were extremely limited opportunities for direct public involvement in forest management (Drushka 1999; Haley 2002). While ninety-five percent of land in B.C. is publicly owned, the power to govern and manage forests is centralized within the Ministry of Forests and Range (MOFR). Through the allocation of tenure, the government transfers certain rights and responsibilities to private actors – primarily individuals and corporations (Ross 1995; Haley and Luckert 1998). These tenures were designed to facilitate the conversion of old-growth forests to timber plantations to support the province's economic development and community stability (Pearse 1992).

In the latter part of the 20th century, the ideologies that shaped forest policies in B.C. and the timber production focus of the forestry sector became increasingly at odds with societal values and expectations (Marchak 1983, M'Gonigle and Parfitt 1994). With few opportunities for public participation in forest planning and management, conflicts erupted in reaction to a variety of concerns including

the negative environmental impacts of timber harvesting, declining employment in the forestry sector, and unresolved treaties with First Nations in B.C. (Wilson 1998). It was in this context that the provincial government introduced the Community Forest Pilot Project and the CFA.

1.2.1 Piloting the Community Forest Agreement

The CFA was envisioned as a unique institutional arrangement, one that some proponents believed had the potential to "significantly change the balance of power with respect to natural resource management", and result in "a radical departure from the way we currently manage our forest resources" (Haley quoted in Hamilton 1997, D1).[1] Government and communities' objectives for the Community Forest Program also reflected the diverse and typically high expectations of community forestry (see Table 1.1).

Since the CFA was introduced in 1998, much practical experience has been gained with community forestry in B.C. (see Gunter 2004; Mulkey et al. 2005). In 2004, the government established the CFA as a program within the provincial tenure system and greatly increased the number of tenures awarded to communities and First Nations.[2] In recent years, the Community Forest Program has benefited from increased political visibility, and attracted the attention of scholars from a variety of disciplines (Bradshaw 2003; McCarthy 2006; Reed and McIlveen 2007; Vernon 2007; Bullock and Hanna 2008). The government is also beginning to explore options for substantial reforms to the tenure system, and the CFA is regarded as a model of decentralization that deserves closer examination (Haley and Nelson 2007).

In spite of this increased attention and the fact that the CFA was designed as an experiment (implying a rigorous assessment of testable hypotheses), there has been relatively little empirical evaluation of the Community Forest Program as a whole.[3] Preliminary reviews that have occurred indicated that the program has

[1] Dr. Haley was a member of the committee appointed by the Minister to help design the CFA.
[2] In early 2006, eleven communities had been awarded a CFA. By May 2008, as many as fifty-two CFAs had been issued or invited. See www.for.gov.bc.ca/hth/community/index.htm
[3] While the Community Forest Advisory Committee did help to design a monitoring and evaluation plan for the pilot project, the plan was never implemented possibly for a variety of

achieved only "mixed results with respect to the achievement of its broad range of program objectives" (Ministry of Finance 2004, 1; see also McIlveen and Bradshaw 2005/2006). As the Community Forest Program stands on the cusp of significant expansion, the opportunity to assess its performance is both timely and valuable.

Table 1.1: Objectives of Community Forestry in B.C.

The provincial government outlined broad objectives for the Community Forest Program. These included:*

- Providing long-term opportunities for achieving a range of community objectives including employment, forest-related education and skills training, and other social, environmental and economic benefits;
- Balancing uses of forest resources;
- Meeting the standards set in legislation in respect of government for environmental stewardship including the management of timber, water, fisheries, wildlife, and cultural heritage resources;
- Diversifying the use of and benefits derived from the CFA area;
- Encouraging cooperation among stakeholders; and
- Providing social and economic benefits to B.C.

Communities also expressed a number of objectives, including:✣

- Increasing community participation in forest management;
- Diversifying the range of resource products generated from the land;
- Establishing local specialty mills and value-added industries;
- Using innovative harvesting practices that minimize environmental impacts;
- Maximizing the number of direct and indirect jobs; and
- Developing a labour-intensive industry in harvesting and silviculture.

Notes: * These objectives were slightly edited in 2004 to reflect changes in provincial legislation and regulations. Additional changes were made in 2008. See www.for.gov.bc.ca/hth/community/objectives.htm.
✣ This list is a sample of communities' objectives from CFA pilot proposals compiled by Cortex Consultants (1999).

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reasons (interviews; also see Cortex Consultants 1999). A review of the pilots was conducted in 2004, although it occurred *after* the MOFR had established the CFA program in legislation and initiated its expansion (see Ministry of Finance 2004; MOFR 2004; Meyers Penny and Norris and Enfor Consultants 2006).

1.3 Study Objectives and Approach

This study contributes to the growing body of knowledge about community forestry in B.C. Specific objectives of the study are to:

- Develop a conceptual framework to describe the institutional changes involved in community-based management;
- Evaluate the performance of the CFA and outcomes of the Community Forest Program; and
- Provide recommendations to address critical knowledge gaps about the efficacy of the CFA and community forestry in B.C.

1.3.1 Challenges to Evaluation

Conducting a rigorous evaluation of the Community Forest Program is difficult, if not impossible, due to the broadness of the government and communities' objectives for the CFA (Table 1.1). This challenge is not uncommon; despite textbook portrayals of policy development as a rational and comprehensive process, causal relationships and pathways between means and ends are rarely predictable or clearly defined. Patton and Sawicki (1993, 324) noted that, "since policies are devised in the public arena, they are often stated in such a way as to appeal to many segments of the public and to avoid offending certain groups. As a result, many policies have vague goals that cannot be measured easily."

Evaluation of policies that enable community-based management introduces additional challenges. Ideally, the objectives of relevant actors (e.g. government *and* communities) are incorporated into the assessment framework. However, as Martin and Sanderson (1999, 251) explained, "in the absence of a clear definition of how priorities are to be determined, at national or local levels, it is not easy for evaluators to weight different kinds of outcomes or to reflect accurately the spectrum of competing views and values." Evaluations by particular actors will tend to focus on their own interests, expectations, and values, leaving broader questions of the collective success of the whole enterprise largely unexplored. The evaluation should therefore include multiple actors at a variety of scales, and seek to identify commonalities and shared definitions of success amid a milieu of potentially broad-ranging desired outcomes.

1.3.2 Realist Evaluation Framework

In the variety of approaches to evaluation, this study can be best characterized as a *realist* evaluation (for a description of this approach see Pawson and Tilley 1997). The realist approach is a useful method for critically assessing complex policies or programs, particularly where unambiguous goals and measurable objectives were not established *a priori,* and where multiple actors with diverse interests are involved (Sanderson 2000).

To conduct a realist evaluation, the first task is to identify the *theory* or *theories* underlying the program (Pawson and Tilley 1997). Focusing on theory offers the evaluator some degree of neutral space to see different levels of a multi-scale system simultaneously, though this approach inherently involves some degree of abstraction. From theoretical premises, the evaluator formulates *hypotheses* – specific and testable propositions - about how a particular mechanism functions within a specific context to generate *outcomes*. Outcomes generally include any observable changes that follow as a result or consequence of an activity or intervention (Shalock 2001). The evaluation process involves measuring quantitative and/or qualitative *indicators* that can be used to confirm or contest the hypotheses. As a general rule of thumb, indicators are selected based on their relevance, robustness, understandability, and measurability.[4]

1.3.3 Testable Hypotheses

The underlying theoretical premise of the Community Forest Program is that community forestry is a fundamentally different approach to forest management, such that the outcomes of community forests will diverge from the industrial status quo. To test this premise, the study examined a series of hypotheses derived from objectives common to the provincial government and communities (Table 1.1), and are reflected in advocates' writings about community forestry in B.C. (e.g. M'Gonigle and Parfitt 1994; Anderson and Horter 2002; Haley 2002).

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[4] This basic hierarchy is akin to other monitoring and evaluation frameworks (e.g. principles, criteria, & indicators) although it differs with respect to its starting premise.

These hypotheses are stated as the following expected outcomes.[5] Communities with a CFA:

a) Have the necessary authority to set the direction of forest management;
b) Manage the forest for multiple non-timber values;
c) Utilize alternative silvicultural systems and more partial-cutting treatments than industrial licensees;
d) Pursue opportunities for value-added wood processing; and
e) Generate local employment and manage more labour-intensive forestry operations than industrial licensees.

For the evaluation framework, these hypotheses were framed as research questions and measurable indicators for each outcome were identified (see Table 1.2). The following section outlines the variety of research methods and data sources used in this study, the specifics of which are elaborated in greater detail in later chapters.

1.4   Research Methods and Data Sources

In realist outcome evaluation, a variety of methodologies are commonly employed (Pawson and Tilley 1997; Sanderson 2000). Collecting data from a variety of sources and methods, the researcher can incorporate both quantitative and qualitative data, account for different perspectives and knowledge systems, and ensure that key findings are consistent and valid (Rossi et al. 2004). This study of the Community Forest Program used a combination of document review, semi-structured interviews, surveys, government databases, and 'researcher participation'. As much as possible, the results of this study were validated and contextualized using a triangulation approach.

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[5] There are, of course, numerous other outcomes that could have been included in this study. Those included here were selected based on their relevance and the availability of information. While not every community with a CFA will necessarily aspire to achieve all of these outcomes, the key assumption is that they at least have the opportunity to do so.

Table 1.2   Research Questions, Indicators, and Data Sources

Research Question	Indicator	Data Sources
a) *Do communities with a CFA have the necessary authority to set the direction of forest management?*	Degree of power over forest management decisions	Document review; Survey; Interviews
b) *Do communities with a CFA manage for multiple non-timber values?*	Presence or absence of rights for NTFPs included in CFA	Document review; Interviews
	Occurrence of NTFPs harvested for local and/or commercial use	Survey
	Annual revenue from commercial harvest and sale of NTFPs	Document review; Survey
c) *Do communities with a CFA use more alternative silvicultural systems than major industrial licensees?*	Percent of area harvested by method*	Document review; Survey
		MOFR database
d) *Do communities with a CFA have value-added wood processing capacity?*	Presence or absence of local wood processing capacity	Survey; Document review; Interviews
	List of purchasers of CFA wood	Document review; Survey
	List of products manufactured from CFA wood	Survey
e) *How much direct local employment do communities with a CFA generate, and are CFAs more labour intensive than industrial licensees?*	Full Time Equivalent	Document review; Survey
	Labour intensity✣ (person yrs/1000 m³)	Document review; Survey
		MOFR database

* Comparison between CFAs and TFLs (See Section 4.3 for further explanation of this measure)
✣ Comparison between CFAs and industrial licensees (See Section 4.5)

1.4.1   Document Review

To gather background information about the Community Forest Program, numerous documents and online resources were reviewed. These included government press releases, provincial forestry legislation, and reports on the Community Forest Program (including MOFR 2003a, MOFR 2004a, Ministry of Finance 2004, Meyers Penny and Norris and Enfor Consultants 2006). To gather information about individual CFAs, a number of official documents were reviewed (where available) including community forest proposals and/or

executive summaries, copies of CFA licence documents, CFA management plans and Forest Stewardship Plans, and interim reports and/or five-year evaluation reports.

1.4.2   Interviews

Semi-structured interviews were used as a fact-finding exercise, and as a method of eliciting perspectives about the Community Forest Program and the degree to which power is devolved to CFA holders. A total of twenty-seven interviews were conducted with the general managers of community forests, MOFR staff, coordinators of the B.C. Community Forest Association, and other individuals engaged with community forestry in B.C. (see Appendix A for interview templates).[6] Most interviews were conducted by telephone, although a few were conducted in person. Each interview lasted approximately one hour. Detailed notes and/or transcripts from each interview were verified by participants and then analyzed using a basic summary and coding technique to pull out key ideas (see Weber 1990 and Babbie 1995 for details on this methodology).

1.4.3   Surveys

The primary method for collecting data on outcomes of the Community Forest Program was through a survey questionnaire administered to CFA managers (see Appendix B). The purpose of the survey was to gather data for specific indicators, though it also included questions to assess CFA managers' perceptions of the Program. The survey was structured with short lists, questions requiring short answers, and Likert scale questions (Babbie 1995). Survey responses were analyzed by calculating simple means and medians, and with some limited comparison (see Babbie 1995).[7] Data were collected for eleven CFAs that had active logging operations at the time of conducting research (November 2005 to March 2006).

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[6] For reasons of confidentiality a list of participants is not provided.
[7] A few attributes and outcomes of CFAs were compared to TFLs, the details of which are described in Chapters 3 and 4.

1.4.4   Government Databases

Databases maintained by the MOFR were accessed to provide specific data on CFAs and other forest tenures in B.C. These included the Harvest Billing System, and the Timber Supply II Socio-Economic Analysis, available online through the MOFR website. In addition, queries for silvicultural data were provided by the MOFR through the RESULTS database (REporting Silviculture Updates and Land-status Tracking System).

1.4.5   Researcher Participation

Although this evaluation of the CFA was primarily an empirical exercise, some general principles of participatory action research (PAR) were followed throughout the study (see Park 1993 and Stringer 1999 for an overview of this approach). PAR is an approach that links learning, action and reflection through an iterative process (Stringer 1999). It differs from traditional positivist methodologies in that it acknowledges and accepts that the research process is affected by the experiences and perceptions of the researcher (and other participants), rather than requiring that they maintain a strictly neutral and distanced stance.

While participatory and positivist approaches have fundamentally different epistemological roots, they can be used in complementary ways to understand different dimensions of the same issue and to ensure the legitimacy and relevance of the data. In fact, PAR has been widely applied in the education and health sectors, and is gaining recognition as an effective way to formulate new solutions and improve research uptake in forest management (Roddan 1994; Spilsbury and Nasi 2004). However, to ensure the validity and reliability of the data presented, Stringer (1999) recommends that the researcher include a brief personal statement that might allow the reader to discern the extent to which the researcher's experiences may have influenced the process.

While conducting this evaluation of the CFA, I have been involved as an associate member of the B.C. Community Forest Association (BCCFA), and a participant in the Association's annual conference. The activities and

relationships facilitated by the BCCFA contributed valuable knowledge and feedback to this study. It was also part of a self-reflective process whereby, as the researcher and a supporter of community forestry, I tested my own assumptions and expectations about the role of community forestry in facilitating a shift towards sustainable forest management in B.C.

1.5   Roadmap

This study presents a snapshot in time that seeks to generate useful insights about the Community Forest Program that may contribute to the evolution of devolution in B.C.'s forest arena.

- Chapter 2 briefly reviews the conceptual foundations of community-based natural resource management, and outlines a framework to describe the institutional reforms that enable community-based management.

- Chapter 3 explores how ideas about community forestry in B.C. were incorporated into the structure of the CFA, and analyzes the extent to which communities with a CFA have the authority to guide forest management decisions.

- Chapter 4 presents an empirical evaluation examining whether outcomes of the Community Forest Program fulfills expectations related to non-timber values, alternative timber harvesting practices, value-added wood processing, and local employment.

- Chapter 5 concludes the study with a synthesis of findings about the CFA, and offers a few recommendations for government and communities to consider with respect to further enabling community forestry in B.C.

Chapter 2

Community-Based Management: Concepts and Challenges

This chapter briefly reviews the conceptual foundations of community-based natural resource management (CBNRM), and explores the nature of institutional reforms and mechanisms that enable it. The discussion also highlights some key challenges that commonly arise with its implementation.

2.1 Foundational Concepts

2.1.1 Participation

The rationale for CBNRM is rooted in democratic theory, driven by the premise that every citizen has the right to participate in decisions that affect their lives. Participation is regarded as a means to empower people (especially the poor and marginalized), reduce conflicts over land use, build 'social capital', and facilitate the democratization of natural resource management (Anderson 2000; Cornwall and Gaventa 2001; Ribot 2002; Parkins and Ross 2005). By including diverse perspectives and integrating more indigenous and locally relevant knowledge, participation is also thought to facilitate decisions that are well-informed and balanced, potentially leading to more sustainable outcomes (Brohman 1996).

While there is broad agreement about the importance of participation in principle, there is frequently disagreement about how it should be implemented in practice (Mohan and Stokke 2000; Irvin and Stanbury 2004; Thompson et al. 2005). Different approaches to participation can be conceptualized along a spectrum (see Arnstein 1968 for a seminal work on this topic; see also Beckley et al. 2006). At one end of the spectrum are 'passive' modes of participation such as a one-way flow of information; and at the other end, people are actively involved in making and implementing decisions – what Arnstein categorized as 'citizen control'. The latter end of the spectrum is generally assumed to be a more robust and effective approach to community participation.

2.1.2 Common Property

In the context of natural resource management, however, the idea of citizen control has evoked the theory of the 'tragedy of the commons' (Hardin 1968). This tragedy was depicted as an over-exploitation of lands and resources by selfish individuals, and was believed to inevitably occur in the absence of either state or private ownership. Countering this perspective is a body of scholarship demonstrating the effectiveness of *common property regimes* – local institutions developed by self-organized resource users – in managing common pool resources such as forests and fisheries (see Ostrom 1990; Ostrom 1999; Gibson et al. 2000).[8] In fact, the movement in support of CBNRM is partly attributable to the growing volume of research documenting the experiences and efficacy of common property regimes (Agrawal 2001).

2.1.3 Community

The concept of common property regimes as an alternative to state or private control suggests *community* as an effective locus of power for natural resource management. In the context of CBNRM, the community is often characterized as a small, discrete, homogeneous and place-based unit of social organization (Agrawal and Gibson 1999). This description has been useful as a "strategic simplification" to gain popular and political support for CBNRM, and is based on the assumption that communities, "by virtue of being natural resource-dependent and/or indigenous, either already have, or could be encouraged to adopt, sustainable resource management practices" (Li 2002, 267). However, this depiction glosses over communities' diversity in a variety of dimensions including gender, identity, interests, and values.[9]

When developing policy for CBNRM, a more realistic and functional definition of community recognizes its complex internal composition: "the multiple actors with multiple interests that make up communities, the processes through which

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[8] *Common pool* resources are defined as "natural and human-constructed resources in which (i) exclusion of beneficiaries through physical and institutional means is especially costly; and (ii) exploitation by one user reduces resource availability for others" (Ostrom et al. 1999, 278).
[9] Similarly, the 'state' is often portrayed as a monolithic entity, though it is a collective of government actors in different agencies with diverse mandates (Carlsson and Berkes 2005).

these actors interrelate, and especially the institutional arrangements that structure their interactions" (Agrawal and Gibson 1999, 636). This definition of community alludes to the fact that CBNRM introduces additional complexity to natural resource governance. And while more complex, there is a general belief that decisions can be made most effectively and efficiently at the local level where capacities exist; a concept referred to as the organizing principle of *subsidiarity* (Anderson 2000).[10]

2.2   Institutionalizing Community-Based Management

In jurisdictions where control over natural resources is centralized, creating opportunities for meaningful community involvement in resource management - approaching the 'citizen control' end of the participatory spectrum - generally requires a transfer of power and responsibilities from the state to the local level. This shift can be described as a process of *decentralization*. Beyond this very basic definition, however, there is little consensus as to the precise meaning of decentralization or its particular manifestations (Carney and Farrington 1998; Andersson et al. 2004).

2.2.1   Defining Decentralization and Devolution

Approaches to decentralization are differentiated in the literature according to the relative degree of power that is transferred from the state to the local level. They may also be distinguished further based on to whom power is transferred (Ribot 2001). Commonly, decentralization refers to the transfer of responsibilities from the state to communities.

Although decentralization is a popular concept in international development circles, scholars have identified problems in the design and implementation of these reforms (Shackleton et al. 2002; Meynen and Doornbos 2004; Edmunds and Wollenberg 2005). Their criticisms hinge on the fact that, in many countries, decentralization involves the state 'downloading' administrative responsibilities and associated costs to communities without the necessary authority or financial

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[10] *Subsidiarity* is thought to be a feature of federalist governments where higher organizational levels deal with matters that cannot be performed more effectively at a more localized level.

resources to implement genuinely participatory approaches to natural resource management (Ostrom et al. 1993; Ribot 2004).

To distinguish more substantive reforms, the term *devolution* is used to describe a variant of decentralization that entails not only the transfer of responsibilities but also the transfer of power (Shackleton et al. 2002; Ribot 2002; Colfer and Capistrano 2005).[11] Devolution implies that the state has handed over discretionary authority, creating the 'political space' for meaningful community involvement in planning and decision-making processes.

2.2.2   Levels of Power

While some degree of community control is a defining feature of CBNRM, devolution does not entail a transfer of *all* power and responsibilities; as Larson and Ribot (2004, 7) explained, it does not require "dismantling the state in order to replace it with local democratic sovereigns." In fact, the state remains the central arena responsible for developing and implementing policies for CBNRM (McCarthy 2005). The critical challenge, however, is determining the appropriate distribution of power between levels of governance (i.e. between the state and communities, and between different levels and agencies of the state), and for which decisions. As Alden-Wily (1999, 50) noted "the fundamental question modern forestry must address is the question of where controlling authority is most productively vested". This particular question will be explored in the context of British Columbia in Chapter 3.

The amount of space created through devolution defines communities' ability to pursue their own goals, prioritize their management objectives, and entitles them to benefit from (and pay the costs of) the consequences of their decisions (Ribot 2002). What constitutes an appropriate distribution of power and responsibilities will vary by jurisdiction, and the overarching policy goals as informed by what defines the broader 'public good' of the day, such as sustainability.

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[11] Other types of reforms included in the category of decentralization include *co-management*, broadly defined as a power-sharing arrangement often involving the state and an indigenous community. Ribot (2002) distinguishes *democratic decentralization* as the transfer of discretionary authority to locally elected and accountable representatives (e.g. local government). *Privatization* is differentiated as the transfer of public functions to private, often corporate, entities.

In general, communities should have the authority to make *operational* decisions affecting the use of the land and/or resource. More importantly, communities should have the power to make some *collective-choice* decisions that set the direction for management and determine the context and rules for operational decisions (Schlager and Ostrom 1992). These collective-choice decisions define strategic and tactical goals that codify a common vision of desired outcomes, and of 'good management' to achieve them. Devolving some power at the collective-choice level is considered important for the sustainability of both the resources and resource-dependent communities. To respond to changes in local conditions, communities require the ability and authority to adjust rules governing operational activities (McKean and Ostrom 1995).

2.2.3 Mechanisms for Devolution

To enable the process of devolution, many different types of institutional changes may be involved depending on the extent to which power is transferred (Edmunds and Wollenberg 2005). At one extreme, devolution entails the transfer of formal jurisdictional powers through a constitutional-level act. Devolution may require amendments to legislation, regulations and policies whereby the government identifies certain powers that can be handed over to communities. In some cases, this involves the state's formal recognition of traditional or indigenous systems of governance (i.e. common property regimes) that endured the centralizing pressures of colonization (Lynch and Alcorn 1994).

Commonly, property rights arrangements or tenures are the primary mechanisms for devolution, allocating rights and responsibilities among different users. Property rights can be bundled in myriad ways, and tenures may include different types of rights for specific resources, and apply to specific areas. These rights also exist within a broader legislative and regulatory framework that enhances or attenuates the discretionary space communities have to exercise them. In general, the type of property rights most relevant to CBNRM include:

- *Withdrawal* – the right to enter an area to harvest certain products of a resource system (e.g. timber or mushrooms);

- *Management* - the right to regulate internal use patterns and transform the resource by making improvements;
- *Exclusion* - the right to determine who will have right of withdrawal and how that right may be transferred; and
- *Alienation* - the right to sell or lease withdrawal, management and exclusion rights (Agrawal and Ostrom 2001).

A common perception is that devolution only occurs when communities possess a full bundle of these property rights – meaning that they are *owners* of the land and/or resource (Ellsworth and White 2004). In the European philosophical and legal tradition, ownership is equated with fee simple title, and is believed to provide the greatest autonomy, incentives, and security for investment and sustainable use and management (Lindsay 1999; Scherr et al. 2002).[12] However, others argue that granting communities full ownership rights is not necessary, and that devolution can work by empowering communities as *proprietors* – including rights of withdrawal, management, and exclusion but without the right to alienate or sell their rights to others (Agrawal and Ostrom 2001).

While there is no blueprint, scholars agree that mechanisms for devolution should exhibit certain characteristics. In particular, they should be *legally defensible* to provide communities with a sense of security that their authority cannot be easily and unilaterally revoked, and to create incentives for their investment of time and effort in managing resources (Lynch and Alcorn 1994; Lindsay 1999; Ellsworth and White 2004). Scholars also recommend that the legal framework be *flexible* enough to allow communities to define and adapt rules to account for diverse local interests, customs, and circumstances.

2.4   Challenges of Community-Based Management

The institutional reforms and mechanisms that devolve management authority to the local level, while important, are only one of several factors that contribute to the success of CBNRM (Colfer 2005; Colfer and Capistrano 2005; Pagdee et al.

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[12] From a classical economic perspective, having the right of alienation is important because "it provides the opportunity that resources will be transferred to their highest valued use" (Schlager and Ostrom 1992, 251). Having full rights as owners is also generally thought of as privatization.

2005). It is important to recognize that communities are inextricably embedded in a broader context – ecological, economic, social and political. The process of devolution changes the scale at which certain decisions are made, and while it may improve the outcomes of resource management, it raises further questions about communities' capacities to take on additional responsibilities, their economies of scale, and their accountability to both the local population and the broader public.

2.4.1 Community Capacity

The organizing principle of *subsidiarity* suggests that decisions can be effectively addressed at the local level (Anderson 2000; Ribot 2002), although the success of CBNRM depends on whether communities have the necessary capacity, expertise, and resources to function effectively in their new role. One could also argue that there are certain functions that should remain within the state's jurisdiction for reasons of good institutional 'fit' at broader geographic, political, and economic scales (Folke et al. 2005; Colfer and Capistrano 2005).

For example, governments can establish minimum environmental standards to which all local authorities must comply (Ribot 2002). Governments also play an important role providing technical information, ensuring continuity across the landscape, mediating disputes between communities, and helping to enforce sanctions against rule-breakers (Ostrom et al. 1999). However, because the state represents a self-interested actor that invariably retains a substantial balance of power, where conflicts erupt between the government and communities, it is important that powers of mediation and adjudication are allocated to an independent body (Carney and Farrington 1998; Agrawal and Ribot 1999).

2.4.2 Economies of Scale

While CBNRM is regarded as a means to support local livelihoods, few analyses have given much attention to how communities transform their decision-making power into economic benefits (Sikor 2005; Agrawal 2007; although see Antorini and Bray 2005). This oversight may be due to the emphasis on CBNRM as a development tool to provide local people with their basic subsistence needs to

alleviate poverty. However, as CBNRM is implemented in developed countries as a means to generate revenues for community economic development, it is unclear whether communities will have the economies of scale to successfully compete in international markets for commodity products (Luckert 1999). In the context of North America, McCarthy (2004, 25) noted:

> the goal of many CBF projects is to continue commodity production, but at a local scale. It is an open question, however, whether many natural resource-based industries can succeed with production organized at a local scale: constraints such as the need for capital and fierce competition have generated pressures for consolidation and centralization for over a century in order for firms to survive, and there is no reason to believe that CBF efforts will be immune to such pressures.

A community's scale of operations is likely to be a critical issue where their dependence on natural resources is mediated by the market, as is the case in British Columbia (Mallik and Rahman 1994). Economies of scale may be less of a concern where communities produce only raw materials (e.g. timber), but a greater issue where they aspire to add value to their products through manufacturing.

2.4.3   Representation and Accountability

Around the world, the community at the centre of CBNRM has manifested in diverse organizational forms including resource user groups, local governments, non-governmental organizations (NGOs), and indigenous peoples' organizations (Ribot 2004; Colfer and Capistrano 2005). While perspectives about the appropriateness of different local governance models tend to differ (see Shackleton et al. 2002; Ribot 2004; Menzies 2004), a general expectation is that the organization empowered with decision-making authority is representative of, and accountable to, the local population (Ribot 2001; 2004).

Where the rights holder is not accountable to the larger community, the result is often 'elite capture' (Klooster 2000; Ribot 2002; Oyono 2004). Davis and Baley (1996, 234) cautioned that "investing local user groups with management powers may do little more than entrench the advantages of vested interests, thereby assuring that participation and benefits will be realizable by only a few." In light of this possibility, Ribot (2002; 2004) recommends *democratic decentralization* – the

devolution of power to a local democratic body, such as a municipal government – as the most effective approach to institutionalizing community participation in sustainable natural resource management.

2.5   Summary

Where control over land and natural resources has been centralized, enabling CBNRM requires institutional reforms that devolve some degree of authority from the state to the local level. While a variety of institutional changes may facilitate the process of devolution, the mechanisms through which power is transferred should provide communities with a sense of security, flexibility, and sufficient authority to create the political space for meaningful community participation in resource management decisions.

Many successful examples of community-based management have been documented, and policy support for devolution of natural resource management appears to be growing in several countries. Besides the devolution of power, however, are numerous other variables that affect the success of CBNRM. In fact, by changing the scale at which natural resources are managed and governed, devolution raises several other challenges and questions. Do communities have sufficient capacity and social capital? Do they have necessary economies of scale? Is the community organization accountable to the local population? What assurances are there that community interests do not compromise the broader public good?

In most countries, CBNRM is a relatively new policy experiment, and more critical analysis is necessary to understand whether and how devolution works, to improve policy design and implementation. The next chapter introduces the Community Forest Program in B.C., and analyzes the CFA as a mechanism for devolution.

Chapter 3

Evolution of the Community Forest Agreement: Towards Devolution?

This chapter outlines the context in which the government of British Columbia introduced a new tenure for community forestry – the Community Forest Agreement (CFA). It also describes the structure of the CFA and how the Community Forest Program has evolved. Analysis focuses on the CFA as a mechanism for devolution, and the extent to which communities can meaningfully participate in and have the authority to set the direction of forest management.

3.1   Historical and Institutional Context

Popularization of community forestry in British Columbia in the early 1990s was a consequence of the emerging sustainability paradigm, and the social and political unrest that characterized the 'war in the woods' (Pinkerton 1993; McCarthy 2006).[13] In response to intense public pressure, the provincial government implemented a series of policy initiatives designed to give a new face to forestry in B.C. and to bring 'peace to the woods' (see Tollefson 1998; Wilson 1998; Cashore et al. 2001; Jackson and Curry 2004). The Commission on Resources and Environment (CORE) was launched to address the previous absence of opportunities for public involvement in land use planning, while the Protected Areas Strategy was implemented in the post-Rio years to create a representative system of parks and protected areas. The Forest Practices Code established prescriptive, 'command and control' regulations to address concerns about the ecological impacts of industrial forestry practices, raised through the international campaigns of environmentalists.

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[13] The 'war in the woods' was a complex and definitive social and political conflict over forests in B.C., and cannot be described in detail here. For a thorough overview, see Wilson (1998).

Government's efforts were met with criticisms from all sides. Industry complained about increased operational costs, and labour unions were concerned about the downward pressure on jobs as a result of the creation of parks, and reductions to the provincial allowable annual cut (AAC). The Forest Practices Code did not go far enough for many environmentalists, who were concerned about the '6% rule' which limited the impact of environmental regulations on timber harvest levels to not more than a six percent reduction of the provincial AAC (Hoberg 2001). While forestry debates focused on the effectiveness of these regulations to change forestry practices in B.C., M'Gonigle (1998a, 103) argued that the more critical question was "not just an issue of means, but of the ends for our forests – and whose interests should determine these ends."

Although ninety-five percent of the land in B.C. is publicly owned,[14] control over forests is vested in a centralized "corporate-bureaucratic partnership" (M'Gonigle 1998a, 106). Power is vested in the provincial Ministry of Forests and Range (MOFR), which delegates certain rights and responsibilities to manage public forestlands to private actors – primarily corporations – by granting forest tenure (Ross 1995; Clogg 1999). Historically, this partnership has provided little space for involvement of a broader public constituency in forest planning and management.

3.1.1 The Tenure Issue

Tenure arrangements in B.C. were established as an efficient way to serve the public interest, and for many years, contributed to the social and economic development of the province. However, the structure of the tenure system and the exclusiveness of the forestry policy community provided few opportunities for transparent and meaningful public discussion about forest management (Rayner et al. 2001). Consequently, public protest and civil disobedience became a regular strategy employed by First Nations and environmentalists to voice their concerns and to challenge the powerful centralist regime (Wilson 1998).

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[14] Public land in B.C. generally referred to as 'Crown' land, though the status of land title is contested by First Nations.

For several decades, the tenure system had been criticized as an "anachronism" that is unresponsive to changing economic conditions and social values (Haley and Nelson 2007). Indeed, the need for tenure reform was an issue that different actors in B.C. generally agreed on, although ideas about the purpose and direction of desired changes widely diverged (Howlett 2001). Implementation of government's policy reforms in the early 1990s, in the name of sustainable development, was broadly seen as ineffective because the regulatory framework provided poor institutional mechanisms to enact change (M'Gonigle 1998a; Clogg 1999).

3.2   Community Forestry: A Participatory Alternative

In the midst of this conflict, community forestry was proposed as a proactive strategy to address a number of issues plaguing the forestry sector. As Cortex Consultants (1997, 2) reported:

> Interest in community forests in British Columbia appears to be partly a reaction to public discontent with large-scale industrial timber production. This discontent relates to issues such as the scale at which harvest planning and scheduling takes place and on which the assessment of sustainable yield is based, the prevalence of clearcutting, and the distribution of benefits from commercial timber production. In general, many communities wish to obtain more economic benefit from timber harvesting in their locales.

Community forestry was regarded as a means to community economic development, a "different way of doing forestry", as well as a more democratic end in itself (Dunster 1994; M'Gonigle and Parfitt 1994). There was also the hope that more local control over forests would allow for expression of community values, and ensure that more of the benefits from forestry were retained locally (Marchak 1990).

Environmentalists in B.C. were supporters of community forestry as they saw 'community' as the appropriate scale of organization to implement ecosystem-based management (Hammond 1991; M'Gonigle 1998a). As territorially-rooted social units, communities were thought to internalize the social and ecological costs of forestry, to be more inclined to utilize environmentally benign practices than industrial licensees, and to seek the highest value for each unit of wood

harvested as a strategy to reduce the overall harvested volume (Dunster 1994; Duinker et al. 1994; Burda et al. 1997).

From a different perspective, community forestry was promoted as a way to actually increase the timber supply by allocating to communities the rights to manage areas in close proximity (e.g. community watersheds) that were environmentally or politically sensitive and generally considered to be not accessible to industrial operators (Zirnhelt 1993). In fact, a report exploring the opportunities for community forestry in B.C. suggested that community forests could help offset reductions in AAC resulting from land use planning, the Protected Areas Strategy, and the Forest Practices Code (Haley and Mitchell-Banks 1997).

3.2.1 Precedence for Community Forestry in B.C.

Although community forestry only gained political attention in the early 1990s, the idea was not new to B.C. Since 1946, the Village of North Cowichan has operated a community forest on lands owned by the municipality, and the Municipality of Mission gained control of a Tree Farm Licence (TFL) in 1956 (Allen and Frank 1994). The concept of community forestry had also been supported in various forest policy commissions dating back several decades (Mitchell-Banks 1999; Haley 2002). For example, the Royal Commission led by Gordon Sloan (Sloan 1945), suggested that municipalities could manage small areas of land as Public Working Circles.[15] Recommendations for community forestry also appeared in the 1957 Sloan Commission (Sloan 1957), the Pearse Royal Commission (Pearse 1976), as well as the Peel Forest Resources Commission (Peel 1991).

Despite the Commissions' recommendations, for many years the community forests in North Cowichan and Mission were rare examples in B.C. due to the lack of available land for new entrants and other communities' limited interest in applying for industrial Forest Management Licenses (Allan and Frank 1994; Haley 2002). The few opportunities that did emerge fell under existing timber

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[15] *Private* Working Circles were the precursors to Forest Management Licenses, and later to Tree Farm Licenses (Pearse 1992).

tenures. For example, the Tl'atz'en First Nation gained access to an industrial TFL in 1982 (Booth and Skelton 2005), and the Village of Revelstoke purchased a TFL in 1993 (Weir and Pearce 1995). In the mid 1990s, a number of other communities were issued volume-based Forest Licences (FLs), which the Villages of Creston and Kaslo endeavoured to manage as community forests (Armstrong 2000; Gunter 2000).

3.2.2 Limitations of Industrial Tenures

While community forests with industrial timber tenures provided some local benefits in the form of direct revenues and employment, communities managing TFLs or FLs were inherently limited by the terms and conditions of their licenses (Haley and Mitchell-Banks 1997; Burda et al. 1997). The entire tenure system was designed around industrial-scale timber harvesting operations by large vertically integrated forestry companies. Existing tenures were thus poorly suited for the kind of smaller-scale and more holistic forestry that community forestry was thought to entail. Cortex Consultants (1997, 25) explained:

> Many communities seeking to establish community forests feel that current tenures do not provide sufficient incentive or flexibility for managing non-timber values and do not adequately provide for community objectives, especially where these objectives are not timber-oriented. Such communities also feel that the current centralized approach to forest regulation does not adequately address local interests or encourage local initiatives.

In light of these restrictions, it was generally agreed that a new institutional mechanism was needed.

3.3 The Community Forest Pilot Project

To help develop the new community tenure, the Minister of Forests appointed a Community Forest Advisory Committee in 1997, drawing together representatives from rural communities, First Nations, the forestry industry, small business, the environmental movement, academia, and labour (MOF 1998). The Committee envisioned a community forest tenure that would be "in marked contrast to the existing industrial model" (Haley 2003, 3), devolving full

management powers and responsibility to communities, with the Province retaining title to the land (interviews).

3.3.1 Proposals for Reform

The Committee considered a wide variety of models proposed for community forestry in B.C., and from other jurisdictions (Cortex Consultants 1997b). Following the North Cowichan model, granting communities with fee simple title to the land was regarded by some proponents as an ideal arrangement, if not for the strong public resistance to the idea of privatization, and the unresolved question of Aboriginal title (Drushka 1993; Clogg 1997; Mitchell-Banks 1999). The most far-reaching proposal came from a group of scholars at the University of Victoria, who recommended quasi-constitutional level changes that reflected a complete overhaul of the provincial tenure system and its legislative, regulatory and economic structures to implement ecosystem-based and community-based management (see Burda et al. 1997; M'Gonigle 1998b).

After considering various options, the Committee recommended developing a tenure that would provide communities with rights to a variety of resources including timber, botanical non-timber forest products (NTFPs), recreation, range grasslands, and gravel (CFAC 1998). They also suggested that the government award the tenure in perpetuity to provide communities with greater security, and include fewer operational constraints to give communities more flexibility to manage for a variety of local objectives.

3.3.2 Characteristics of the CFA

In July 1998, the CFA was established through Bill 34 of the *Forest Statutes Amendment Act* (S.B.C. 1998, c. 29, s. 1-4) adding new sections of the *Forest Act* (R.S.B.C. 1996, c.157, s. 43.1 & 43.3-43.5). As such, the CFA falls under the same legislative and regulatory framework as other tenures. Like other licensees, CFA holders must comply with provincial forest practices standards,[16] and are responsible for carrying out a number of management functions such as

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[16] The 1994 *Forest Practices Code Act* was replaced in 2002 with the *Forest and Range Practices Act (FRPA)*. Under the previous code pilot CFAs were allowed to use streamlined WL regulations.

management planning, site planning, and reforestation (MOFR 2006; Ambus et al. 2007). CFA holders also have an added duty to maintain community involvement and support.

Though the intention was to create a unique institutional mechanism for community forestry, the structure of the CFA is very similar to other area-based tenures, namely the industrial TFL and the Woodlot Licence (WL) (See Table 3.1).[17] In fact, McCarthy (2006, 95) noted that, "The community forest agreements are in some ways a quite minor modification of the province's forest tenure system inasmuch as they simply expand the list of eligible tenure holders to include communities and First Nations."

The CFA does, however, have a few unique characteristics:

- The CFA includes exclusive rights to harvest timber, and is the only tenure in B.C. that grants rights to botanical NTFPs. However, CFA holders' rights to NTFPs are not exclusive since Aboriginal rights are constitutionally protected. If communities want to manage the forest for other values (e.g. water or recreation) they must obtain the appropriate tenures or permits from other government agencies.

- The legislation allows for a term of up to 99 years, although CFAs are initially awarded for a five-year pilot or probationary period.[18] Following a satisfactory evaluation by the MOFR, communities may be awarded a long-term CFA with a duration ranging from 25 to 99 years. A long-term CFA can be replaced every 10 years, making it 'evergreen' and essentially perpetual.

- CFAs are excluded from cut control requirements under the *Forest Act*, although a five-year cut control period is stipulated in their license document.

- The CFA is held by a community-based organization. The *Forest Act* allows communities to define themselves as one of a variety of legal entities including local government, First Nations band, a registered society,

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[17] *Area-based* tenures provide access and rights to a specific area of public land, whereas *volume-based* tenures grant rights to harvest a specified quantity of timber within a Timber Supply Area.
[18] There is some indication, however, that the probationary period for CFAs will be eliminated (interviews).

corporation, or a cooperative.[19] The community organization is generally expected to represent and account for diverse local interests, and have the capacity to operate as a business (CFAC 1998).

- CFAs are treated differently in the stumpage regime. CFA holders are required to pay annual land rent and stumpage, although an alternative arrangement was implemented for CFAs in January 2006, effectively reducing their stumpage payments by 70 percent on the coast, and 85 percent in the interior regions of the province.[20] CFA holders are also exempt from timber appraisals, further reducing their administrative costs.

Table 3.1 – Current Characteristics of Area-Based Forest Tenures

Characteristic	CFA	TFL	WL
Resource Rights	Manage area of Crown land; exclusive rights to harvest timber, and some rights to NTFPs	Manage area of Crown land; exclusive rights to harvest timber	Manage area of Crown land; exclusive rights to harvest timber
Duration	5 yr probationary; long-term CFA 25 to 99 yrs	25 years	20 yrs, replaceable every 10 years
Replacement	Long-term CFA evergreen - replaceable every 10 yrs	Evergreen - replaceable every 5-10 yrs	Evergreen – replaceable every 10 yrs
Transferability	Transfer permitted to another community group with Minister consent	Subdivision and transfer permitted without consent	Transfer permitted to another locally based individual without consent
Management plan	Required	Required	Required
Cutting permits	Required	Required	Required
Forest protection	Yes	Yes	Yes
Reforestation	Yes	Yes	Yes
Cut control	CFA excluded under the *Act* but 5 year cut control period in license	Licensees must harvest balance of AAC over 5 yrs	Licensees must harvest balance of AAC over 5 yrs

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[19] The CFAC intended to test the effectiveness of different organizational models, but criteria for an evaluation were never identified (MOF 1998; Cortex Consultants 1999; see also MOFR 2004).
[20] Reductions are in relation to tabular rates under the new market-based pricing system. Interestingly, implementing this change only required an amendment to relevant sections in the technical Coast and Interior Appraisal Manuals.

Characteristic	CFA	TFL	WL
Mill appurtenancy	No	No	No
Log exports restricted	Yes	Yes	Yes
Annual rent	Yes	Yes	Yes
Stumpage	Yes, with 70-85% reduction	Yes	Yes

(based on Burda et al. 1997; Cortex Consultants 2001; MOFR 2006)

3.4   Policy Implementation and Evolution

When the pilot project was implemented in 1998, communities seeking to obtain a CFA were selected through a competition involving a rigorous and often expensive application process (MOF 1998; Anderson and Horter 2002; Gunter 2004). By October 2000, ten pilot communities were chosen to test a variety of sizes, governance models and approaches to management. Indeed, pilot CFAs exhibit a wide interpretation of community forestry on the ground, and generally reflect the unique characteristics of the local population, their values, and the diversity of the provincial landscape (See Appendix C for a list of the pilot CFAs awarded between 1999 and 2004, and Appendix D for map showing their location). In view of this diversity, Prudham (2007, 8) observed, "there is no single thing called 'community forestry' even under the auspices of this single provincial program."

In the Southern Interior region of B.C., for example, the Harrop-Procter Community Cooperative identified water quality as a primary objective and developed an ecosystem-based management plan for the communities' drinking watershed (Elias 2000; Pinnell and Elias 2002). With a small timber harvest, the community forest in Bamfield on the west coast of Vancouver Island focused on opportunities in education, research and tourism (Morgan 2002). In the interior regions of the province, the growing mountain pine beetle epidemic led some communities such as Likely, to prioritize forest health. Others, including Burns Lake, Fort St. James and the Cheslatta First Nation have been forced to address the beetle infestation primarily through clear-cut salvage harvesting (McIlveen 2004).

3.4.1 Forest Policy Changes

Since the first pilot CFAs were awarded, a series of sweeping forest policy changes have occurred, profoundly affecting the tenure system. In 2002, the government introduced the results-based *Forest and Range Practices Act* (S.B.C. 2002, c. 69), replacing the previous 'command and control' Forest Practices Code of B.C. (R.S.B.C. 1996, c. 159), reducing the regulatory burden on all licensees. The government passed legislation allowing the Minister to directly award forest tenures to First Nations, to expedite interim measures agreements to treaty.[21] In 2003, the Forest Revitalization Act (S.B.C. 2003, c. 17) introduced a market-based timber pricing system, and facilitated the take-back of twenty percent of volume-based tenures, reallocating the volume to B.C. Timber Sales,[22] First Nations tenures, CFAs and woodlots (MOFR 2003b).

Other policy changes involved the elimination of mill appurtenancy and the relaxation of minimum annual cut control requirements to give licensees greater adaptability in response to changing market conditions and to help increase their efficiencies. Historically, these conditions were included to ensure a steady fibre flow through the mills and to maintain a minimum level of local employment and community stability and were considered part of the "social contract" between corporate tenure holders and the provincial government (Clogg 2003). The policy changes also allowed major tenure holders the freedom to subdivide and transfer (i.e. sell) their rights.

3.4.2 Program Expansion

In 2004, the CFA became a full-fledged program, and as a result of tenure reallocation from the Forest Revitalization Plan (MOFR 2003b), new opportunities for communities to obtain a CFA became available.[23] In the nine

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[21] *Forestry (First Nations Development) Amendment Act* (S.B.C. 2002, c. 44, s. 47.3).
[22] B.C. Timber Sales is an independent division of the MOFR that develops timber sales licenses for competitive auction to determine the market value of timber harvested from public land and to calculate stumpage fees payable by other tenure holders (MOFR 2006).
[23] To facilitate the expansion process, the MOFR streamlined the CFA application and award processes (see MOFR 2005). Despite reviewers' recommendations to "retain and resource" the Community Forest Advisory Committee, once a central part of the selection and evaluation processes for the pilot project, it was dissolved in 2007 (Meyers Penny Norris and Enfor Consultants 2006, 75).

months leading up to the provincial election in May 2005, the government invited a further twenty-four communities to apply for a probationary CFA.

Expansion of the Community Forest Program was seen as an important concession to offset political pressure from resource-dependent communities negatively impacted by the downturn in the forestry sector (interviews). A review commissioned by the MOFR also noted, "the Community Forest Program is one of the few remaining Ministry programs that incorporates an explicit social development focus" (Meyers Penny Norris and Enfor Consultants 2006, 76).

At the time of initiating this study (2005-2006), only eleven pilot CFAs had been issued and were operational (see Appendix C). By May 2008, the MOFR had issued six long-term CFAs, twenty-two new probationary CFAs, and twenty-four communities were at various stages in the application process. Despite these increases, the total volume allocated to all CFAs still only amounts to approximately one percent of the total provincial AAC (Figure 3.1).

Figure 3.1: Apportionment of Total Provincial AAC by Tenure Type[24]

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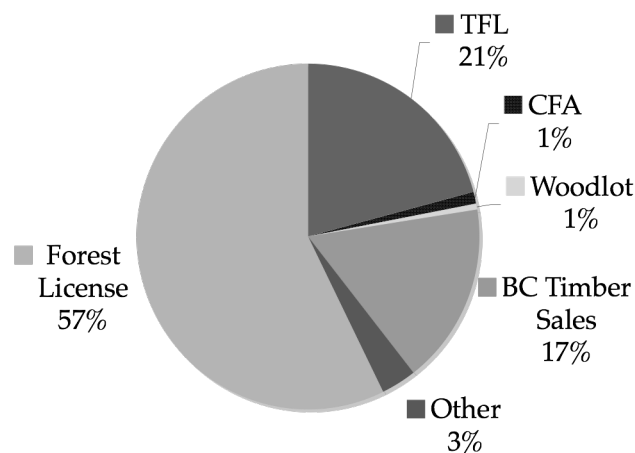
[24] Data from MOFR Apportionment System Provincial Summary Report, October 10, 2007. Values for woodlots and CFAs shown in Fig. 3.1 are rounded up to 1%. The 'Other' category includes Pulpwood Agreements (1.89%), replaceable Timber Sales Licences (0.1%), and Forest Service Reserve (1.21%)

3.5   The CFA as a Mechanism for Devolution

A tenure that affords communities the right to harvest timber is only a small part of the larger question of whether community forestry is enabled by the CFA. The larger and more complex question hinges on the degree to which communities have the power to set the direction of forest management. In other words, to what degree do CFA holders have the power to make strategic decisions?

3.5.1   Analysis of the CFA: Applying the Functional Power Matrix

The following analysis of the CFA is structured using a two-dimensional framework (based on Forsyth 2006). The horizontal axis of the matrix uses a spectrum with five degrees of power ranging from lowest to highest. The vertical axis includes a list of forest management functions, grouped into three levels of decisions: strategic, tactical, and operational (see Table 3.2).

Analysis involved ranking the degree of authority afforded to CFA holders for each management function, for timber and botanical NTFPs (summarized in Figure 3.2 and elaborated upon in Table 3.3), based on a review of current provincial forestry legislation and regulations, CFA documents, as well as research participants' responses during interviews.[25]

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[25] See Appendix A for interview templates.

Table 3.2: Forest Management Functions

	Function	Description
Strategic	*Land Use Planning*	Devising regional land use plans to delineate areas for protection, resource use, and development.
	Resource Inventories	Designing assumptions and parameters for resource inventories to determine the level of production (e.g. Timber Supply Analyses).
	Harvest Levels	Determining harvest levels (i.e. AAC) at the regional level, and for individual licences.
	Allocating Resource Rights	Decision to award tenures as well as extensions, replacements, and transfers.
	Economic Rent	Developing rules for royalties (i.e. stumpage), rent, and other fees.
	Standards of Practice	Establishing legal standards for resource management practices (e.g. *FRPA*).
	Compliance & Enforcement	Establishing rules and procedures to ensure compliance with standards, and penalties for contravention.
Tactical	*Dispute Resolution*	Mediating disputes concerning the activities of tenure holders or MOFR decisions.
	Management Planning	Creating management plans that describe objectives and strategies to achieve those objectives for a specific area and duration.
	Monitoring & Evaluation	Evaluating licensee performance using pre-determined criteria and measures.
Operational	*Site Planning*	Creating site plans that describe specific operational activities.
	Operational Activities	Carrying out operational activities outlined in site plans such as timber harvesting.
	Manufacturing & Marketing	Processing, marketing, transport, and sale of forest products.

Figure 3.2: Functional Power Matrix – Summary of CFA Analysis

	Management Function	Lowest	Low	Med.	High	Highest
Strategic	Land Use Planning	▲ ●				
	Resource Inventories	▲				●
	Harvest Levels	▲ →				●
	Allocating Resource Rights	▲			●	
	Economic Rent	▲ →				●
	Standards of Practice	▲ →				●
	Compliance & Enforcement	▲		●		
Tactical	Dispute Resolution			▲		●
	Management Planning			▲		●
	Monitoring & Evaluation			▲		●
Operational	Site Planning				▲	●
	Operational Activities				▲	●
	Manufacturing & Marketing					▲●

Legend: ▲ Timber, ● Botanical NTFPs

Table 3.3: CFA Analysis and Rationale

Forest Management Function & Degree of Power	Rationale
Land Use Planning Timber: Lowest NTFP: Lowest	CFAs holders must comply with land use plans approved by government.
Resource Inventories Timber: Lowest NTFP: Highest	MOFR estimates the volume of timber in an area, but communities conduct timber supply analyses prior to obtaining a license, or shortly thereafter. In such cases, they use data provided by the MOFR or use similar assumptions in their own analyses. If CFA holders intend to commercially harvest and/or manage for NTFPs they are responsible for conducting their own inventories.
Harvest Levels Timber: Lowest to Low NTFP: Highest	In the pilot project, communities identified an area and proposed an AAC based on their management goals. With the program expansion, the MOFR invited communities to apply for a specific AAC. Communities that include NTFPs in their license agreement are responsible for determining sustainable harvest levels.
Allocating Resource Rights Timber: Lowest NTFP: Highest	The award, extension or replacement of a CFA is the discretion of the MOFR. Because there are few unallocated areas of land in B.C., the boundaries of CFAs are identified through a negotiation between the community and the MOFR. CFA holders may decide to include NTFPs in their licence, but if they want to manage for other values (e.g. water), they must apply for a tenure or permit with the appropriate agency (e.g. Ministry of Environment).
Economic Rent Timber: Lowest to Low NTFP: Highest	CFAs holders are obliged to pay annual rent, stumpage, and other fees. However, CFA holders pay 70 to 85% less the tabular stumpage rates. There are no required fees for harvesting NTFPs.
Standards of Practice Timber: Lowest to Low NTFP: Highest	CFAs holders must comply with *FRPA*. Legal standards or regulations governing the management of NTFPs currently do not exist.
Compliance & Enforcement Timber: Lowest NTFP: Medium	MOFR is responsible for monitoring compliance with forestry legislation and enforcing any contraventions. MOFR has not developed regulations for NTFPs, and CFA holders may develop rules for NTFPs within their tenured area although the authority they have to legally enforce their rules is unclear, since Aboriginal rights to harvest NTFPs are constitutionally protected.

Forest Management Function & Degree of Power	Rationale
Dispute Resolution Timber: Medium NTFP: Highest	CFA holders can challenge specific decisions made by the MOFR through the Forest Appeals Commission, but are expected to manage and resolve any intra-community conflicts.
Management Planning Timber: Medium NTFP: Highest	CFAs holders are required to develop management plans and FSPs that meet *FRPA* requirements, and submit these to the MOFR for approval. CFAs holders may develop plans for NTFPs although they are not required to do so.
Monitoring & Evaluation Timber: Medium NTFP: Highest	CFAs are subject to an evaluation by the MOFR at the end of a 5-yr probationary phase, on which basis they may be awarded an extension or a long-term CFA. CFA holders may also be held to account by the community through various processes (e.g. public reporting requirements).
Site Planning Timber: High NTFP: Highest	CFA holders are responsible for creating forestry site plans. These plans do not require MOFR approval although they are required to make them available if requested.
Operational Activities Timber: High NTFP: Highest	CFAs holders carry out forestry activities and are required to apply for cutting and road permits issued by the MOFR prior to starting any activities. There are no formal requirements for NTFPs.
Manufacturing & Marketing Timber: Highest NTFP: Highest	CFAs holders are responsible for the production, sale, and transport of timber and NTFPs from their tenured area. There are few formal restrictions, although raw log exports are banned, except under special permit situations.

3.5.2   Key Collective-Choice Decisions

For a community to guide the direction of forest management, one would expect them to have authority over certain strategic and tactical 'collective-choice' decisions which set the terms, and define the range of options or constraints, by which operational functions are carried out (Schlager and Ostrom 1992). Key collective-choice decisions affecting forest management in B.C. include land use planning, the determination of harvest levels, the setting of forest practices standards, and forest management planning processes (Ross and Smith 2002; Passelac-Ross 2006; Forsyth 2006).

Land Use Planning

The CFA does not afford communities the authority to set broad strategic management direction for the land contained within their allocated area. By default, CFA areas are considered part of the 'working forest'. During land use planning processes, CFA holders are essentially 'just another tenure holder' that must abide by the land use plan as a subject rather than an agent of it.

Determination of Harvest Levels

Determination of the target AAC for communities' tenured area (within a maximum sustainable limit defined by the Chief Forester) was considered an especially critical decision to devolve to communities because managing the forest for multiple values of interest to the community (e.g. recreation, water quality) typically entails a tradeoff and reduction in the level and rate of timber harvesting (Cortex Consultants 1996; Clogg 1997; M'Gonigle 1998b).[26] However, communities with a CFA generally have limited authority to deviate from the government's focus on timber harvesting. During the pilot project, communities identified their CFA area and proposed an AAC based on local management priorities and therefore may have had some degree of power over their AAC (interviews).[27] During the expansion and implementation of the Community Forest Program, the process was reversed as the MOFR invited communities to apply for a specific AAC, treating the probationary CFA more like a volume-based tenure than an area-based tenure.

While communities may have the opportunity to negotiate their AAC with the MOFR during the process of applying for a CFA, the government retains the final authority over this decision. That CFA holders *negotiate* with the Province emphasizes the fact that communities must gain government's approval to manage the forest for their local (non-timber) objectives, and therein the ability to internally deliberate upon and manage for tradeoffs between timber supply and

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[26] While the concepts of sustained-yield and AAC were originally intended to define a maximum *limit* of timber harvest, they have been widely applied as a *target* (see Luckert and Williamson 2005), and in this discussion, AAC implies the latter.
[27] In at least one case, the AAC proposed by the community proponent was significantly lower than the AAC calculated by the MOFR for the same area.

a diversity of other community values. Terms of their licence also oblige CFA holders to harvest the balance of their AAC within a five-year cut control period.[28]

Management Planning and Forestry Practices

In their application for a CFA, communities must develop a forest management plan including their vision, goals, and guiding principles. CFAs holders are also required to devise FSPs, and submit these to the MOFR for approval. Under the current results-based forest practices code, community tenure holders have some flexibility to decide what approaches they will use to fulfill the management objectives defined by government in the Forest Planning and Practices regulation,[29] and any other community objectives outlined in their management plans. However, fulfillment of these objectives must occur "without unduly reducing the supply of timber from British Columbia's forests" (B.C. Reg 14/2004).

The fact that the CFA holder is responsible for developing these plans may allow some space for community input to management objectives, although the terms and conditions of the tenure are such that government alone defines the decision-making space within which communities must operate. Communities may have to resort to exerting political pressure to assert a right to define their own strategic priorities.[30]

3.6   Summary and Conclusions

Although the intention of the Community Forest Pilot Project was to develop a unique institutional mechanism, only very minor changes were made to incorporate community forestry into the existing tenure system. The CFA is

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[28] It is unclear whether the 'cut it or lose it' rule that applies to other tenure holders also applies to CFAs because the CFA is not included in the *Forest Act* section on cut control (S.B.C. 1996, c. 157, s.75). The program is also relatively new and the MOFR has yet to encounter a scenario where a CFA holder has not met its AAC within the five-year period.

[29] Objectives included in FRPA regulations include soils, timber, wildlife, fish habitat, water quality, visual quality, and cultural heritage values.

[30] For example, the Harrop-Procter Community Cooperative negotiated with the MOFR before the government agreed to a significantly reduced AAC required to implement their ecosystem-based plan that prioritized water quality (interviews).

basically a smaller version of the TFL, and operates in the same legislative and regulatory framework that was designed for industrial-scale logging operations.

The analysis presented in this chapter shows that devolution is limited. The CFA provides communities with operational-level rights, although it transfers very limited power over key strategic decisions (e.g. AAC determination), thereby constraining communities' ability to set the direction of forest management within their tenured area. However, once stumpage is paid, harvested timber is treated as a private good and CFA holders are entitled to the benefits derived from these resources. Any revenues generated by the CFA may be used locally to fund activities in the community forest or to support other local social programs and infrastructure.[31] With respect to botanical NTFPs, CFA holders appear to have a higher degree of decision-making authority, although since the provincial government has yet to develop a comprehensive regulatory system for NTFPs (Tedder et al. 2002), communities' level of discretion to manage and control NTFPs is *de facto* rather than *de jure*.

By awarding CFAs to communities the government has transferred the rights and powers over the means of forest management, but has constrained communities' ability to affect its ends, particularly ends that diverge from the industrial status quo. Moreover, while CFA provides limited rights to relatively small areas of forestland, the majority of area in B.C. is still controlled by the government and major corporate licensees.

Because the tenure is 'community-based', CFA holders have added – though loosely defined – responsibilities to ensure ongoing local support, participation, and accountability in all aspects of their forestry operation. The fact that the tenure is community-based has led some to imply that the outcomes of CFAs will differ significantly from the outcomes of industrial forestry (Mitchell-Banks 1999; Haley 2002; Gunter 2004). With these expectations in mind, the following chapter assesses some of the outcomes of the Community Forest Program.

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[31] See Gunter 2004 and BCCFA 2008 for examples of initiatives funded by community forests.

Chapter 4

Outcomes of the Community Forest Program

The high expectations of community forestry in B.C. are exemplified by Haley's (2002, 61) assertion that "Management practices within community forests are generally more innovative, diverse and labour intensive than on other forms of tenure and provisions are made for a broader spectrum of forest values." However, there has been limited empirical analysis of whether the CFA has, in fact, enabled a different way of doing forestry.[32] This chapter presents the results of an evaluation of the Community Forest Program.

4.1   Evaluation Approach and Expected Outcomes

As described in Chapter 1, this study examined outcomes of the Community Forest Program using a realist approach. This method is useful for examining policy systems that are complex, lack clear objectives, and involve multiple actors with diverse and potentially divergent interests and priorities (Pawson and Tilley 1997; Sanderson 2000). A realist evaluation identifies commonalities in the variety of actors' goals to generate overarching theoretical premises that are tested as hypotheses.

This chapter focuses on four such premises, each aligned with the broad expectations of community forestry in B.C. These are that communities with a CFA:

- Manage the forest for multiple non-timber values (i.e. NTFPs);
- Employ alternative silvicultural systems and more partial harvesting treatments than industrial licensees;
- Pursue opportunities for value-added wood processing; and
- Generate local employment and manage more labour-intensive forestry operations than industrial licensees.

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[32] For a preliminary assessment of the pilot project see McIlveen and Bradshaw (2005/2006).

4.1.1   Methodology and Data Sources

To test these hypotheses, a series of measurable indicators were identified (see Table 4.1). Since there is limited socio-economic or ecological information on record for CFAs, the primary method for collecting CFA data was through a structured survey. Surveys were administered to the general managers of eleven CFAs that had active logging operations at the time of conducting research in 2005-2006 (See Appendix B for the survey template, and Appendix C for the list of communities included in the study). The validity and reliability of CFA data is dependent on managers' responses to questions, although it was triangulated with information from interviews, and where available, CFA licence documents, management plans, annual reports, and five-year evaluation reports.[33]

Table 4.1   Expected Outcomes, Indicators and Data Sources

Expected Outcome	Indicator	Data Sources
Multiple non-timber values	Presence or absence of rights for NTFPs included in CFA licence	CFA licence; Interviews
	Occurrence of NTFPs harvested for local and/or commercial use	Survey; Document review
	Annual revenue from commercial harvest and sale of NTFPs	Survey; Document review
Alternative silvicultural systems	Percent of area harvested by method*	Survey
		RESULTS database
Value-added wood processing	Presence or absence of local wood processing capacity	Survey; Document review
	List of purchasers of CFA wood	Survey
	List of products manufactured from CFA wood	Survey; Document review
Local Employment	Full Time Equivalent (FTE)	Survey; Document review
	Labour intensity✣ (person yrs/1000 m^3)	Survey
		Timber Supply Analysis II, Socio-Economic Analysis

* Comparison between CFAs and TFLs (See Section 4.3 for further explanation of this measure)
✣ Comparison between CFAs and industrial licensees (See Section 4.5)

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[33] Triangulating between other data sources confirmed the survey data, and in many cases filled in information gaps where managers' responses to questions were incomplete or unclear.

The hypotheses concerning silvicultural systems and labour included a comparison between CFAs and industrial tenures, and required gathering relevant data for industrial licensees. This data was obtained from available government sources (i.e. MOFR RESULTS database, and the MOFR Timber Supply Review II Socio-Economic Analysis).

Ideally, information used for such a comparison would be obtained from the same data set or use similar research methodologies to reduce discrepancies and the possibility of error. Unfortunately, information for CFAs was not available from the MOFR's databases when the research was conducted, and administering a similar survey of industrial tenure holders was not feasible within the limited scope of this study.

For the purpose of this study, despite the potential for discrepancies, the data provides an adequate basis for comparison. Information on industrial licensees was used primarily as a benchmark to determine whether the outcomes of the Community Forest Program have diverged from the status quo of industrial forestry.

The following sections of this chapter deal with each hypothesis in turn, including details of the measured indicators, specific methods of analysis, presentation of results and a discussion of findings.

4.2 Multiple Non-Timber Values

A general premise of community forestry is that local people, especially those whose livelihoods and quality of life are directly dependent on the forest, will manage the forest for multiple values - both timber and non-timber. Based on this premise, the CFA was designed to grant communities a more comprehensive bundle of rights, providing them with the opportunity to diversify their forestry enterprise from an exclusive focus on timber harvesting, and to generate additional income through the use, management and sale of botanical NTFPs.

4.2.1 Hypothesis and Measurable Indicators

This study examined the proposition that communities with a CFA manage the forest for multiple non-timber values – botanical NTFPs, in particular. While CFA holders may manage and derive benefits from other values (e.g. recreation or water quality), this study focused on NTFPs because these rights are explicitly included under the *Forest Act* (S.B.C. 1996, c. 157, s.43).[34] To test this hypothesis, three indicators were measured:

- Presence or absence of NTFPs in communities' CFA licence;[35]
- Occurrence of NTFPs harvested for local and/or commercial use; and
- Revenues from the commercial sale of NTFPs.

4.2.2 Results and Observations

Of the eleven operational CFAs included in this study, botanical NTFPs were included in six CFA licences (See Table 4.2). Of these six, the managers of three CFAs reported that NTFPs were harvested within their tenured area for both local and commercial use (Burns Lake, Harrop-Procter, and Cowichan Tribes). The botanical products commercially harvested from these CFAs included edible wild mushrooms, berries, floral greens (e.g. salal and conifer boughs) and a variety of medicinal plants. In the other three CFAs that included NTFPs in their licence (and in two that did not), managers reported that a variety of species

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[34] For other values or products, CFA holders must apply for permits issued by other ministries. For example, to obtain a license for water use (e.g. for irrigation), proponents must apply for a license through the Ministry of Environment.

[35] When present, Schedule C of the licence document includes a list of botanical species that the CFA holder intends to manage and commercially harvest from their tenured area.

were harvested from the CFA area for local use, including berries, floral greens, and mushrooms.

Table 4.2: Botanical NTFPs Harvested from CFAs

Community	NTFP in CFA	Local Use	Commercial Use	Species Harvested Commercially
Burns Lake	√	√	√	• Mushrooms: morels • Huckleberries and saskatoons • Medicinal herbs
Harrop-Procter	√	√	√	• Medicinal plants: Devil's Club, Princes Pine, Aralia • Cedar bark
Esketem'c		√		
Fort St. James		√		
Bamfield-Huu-ay-aht	√	√		
McBride	√	√		
Cowichan Tribes	√	√	√	• Floral: conifer boughs, salal • Medicinal plants • Cedar bark and roots • Berries: blackcap raspberry, salmonberry, huckleberry
Likely-Xatsu'll		√		
Cheslatta	√	√		
Westbank				
Ktunaxa-Kinbasket				

4.2.3   Analysis and Discussion

While communities with a CFA may have the legal right to access, manage and harvest botanical NTFPs from within their tenured area for local and/or commercial use, they do not appear to have exercised their rights to the fullest extent possible. Roughly half of the operational CFAs included NTFPs in their actual licence, and only three CFAs reported that NTFPs were harvested for commercial use. For those CFA holders that did commercially harvest NTFPs, the venture did not appear to be particularly lucrative. For example, the

manager of Burns Lake Community Forest Ltd. reported that NTFPs generated a mere $500 in 2004.[36]

Communities' low commercial utilization of NTFPs does not necessarily reflect a lack of interest, though it may reflect CFA holders' limited capacity to diversify their forest management approach and business enterprise. During the start-up phase of a CFA, communities typically focus on getting their timber harvesting operations up and running to provide much-needed capital. The additional costs and responsibilities involved with managing for NTFPs may be untenable for a fledgling business. For each species they intend to manage, CFA holders are responsible for conducting inventories, devising management plans, determining sustainable rates of harvest and impacts on timber supply. Gathering this amount of detailed information is time consuming and expensive, and funding from the MOFR to support communities' efforts to conduct this research in CFAs has been limited (Gunter 2004).[37]

Nevertheless, a few communities have started gathering some of the information they will need in the future to manage for NTFPs. For example, the Bamfield-Huu-ay-aht Community Forest Society, through its partnership with the Bamfield Marine Sciences Centre, generated an inventory of the wide variety of botanical species in their CFA area (Morgan 2002; interviews). The Harrop-Procter Community Cooperative and McBride Community Forest Ltd. have also conducted use studies for a few plant species within their CFA areas (McKenzie 2003; interviews). Of all the CFA holders, Harrop-Procter has made the most effort to diversify its forestry enterprise to include botanical NTFPs, establishing a small subsidiary business, Sunshine Bay Botanicals, producing a variety of products including herbal teas and medicinal tinctures.[38]

While many NTFPs are used for local consumption, to generate revenues from commercial exploitation of NTFPs, communities need market access to sell their

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[36] Financial data for NTFPs from Harrop-Procter and the Cowichan First Nation were not available.
[37] In the future, however, NTFP inventories may be allowed as a fundable program under the Forestry Innovation Account (FIA) for CFAs.
[38] The majority of their herbal products were cultivated on privately owned agricultural land.

products. Where markets exist, NTFPs are a potentially lucrative opportunity. A recent study estimated that the industry for two products (i.e. salal and edible mushrooms) generates several million dollars annually, and there are as many as 170 commercially harvestable species of NTFPs in B.C. (Cocksedge 2006; Cocksedge and Hobby 2006).[39] While not all of these species will be economically valuable, taking advantage of potential opportunities will depend on local community entrepreneurs developing and marketing their products.

To maximize the benefits accruing from their rights to botanical NTFPs, CFA holders would also need the power to enforce locally devised rules concerning who can access, use, and manage NTFPs within their tenured area. As discussed in Chapter 3, CFAs are currently the only tenure in B.C. that includes rights to NTFPs, and a high level of *de facto* discretionary authority is devolved to community tenure holders due to the lack of provincial regulations for these resources.[40] However, for the same reason, the potential for CFA holders to derive benefits from their rights are currently limited, since NTFPs are essentially treated as 'open access' common pool resources on public land (Tedder et al. 2002; Forest Practices Board 2004).[41] Without exclusive rights or clearly defined powers, there are no guarantees that CFA holders will benefit from the management of NTFPs and therefore have fewer incentives to make investments. However, the assertion of CFA holders' rights may also create potential problems between community forest organizations and professional NTFP harvesters that have established their own system of operating rules. In light of these issues, some CFA managers noted the need to collaborate with NTFP harvesters in the development of management regimes and new business opportunities (interviews).

Adding further complexity to these prospects, recent jurisprudence has recognized the traditional, cultural, and subsistence use of NTFPs by First

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[39] Their study showed that, from 1995 to 2004, salal generated between $27 and 65 million annually, and wild edible mushrooms generated between $10 and 42 million annually.
[40] Where there is a well-established industry for economically valuable species (e.g. salal), there may already be informal institutions devised by pickers to manage and govern these resources.
[41] These rights are not exclusive although the *Forest Act* does not provide a clear definition; the legislation states only that the CFA may include rights "to harvest, manage, and charge fees for botanical products and other prescribed products" (Division 7.1, Section 43.3 (c)).

Nations as constitutionally-protected Aboriginal rights (Tedder et al. 2002). Interestingly, this fact may explain why four of the five communities that did not include NTFPs in their CFA were First Nations tenure holders. Where CFAs are not held by First Nations (solely or in partnership), devising and enforcing rules affecting NTFP management at the community level would require consultation with local First Nations to ensure that rules do not infringe upon these rights. However, whether and how the Crown's duty to consult with First Nations should be exercised by community tenure holders is unclear.

4.3   Alternative Silvicultural Systems and Harvesting Treatments

As a general premise, communities with a CFA are expected to employ alternative silvicultural systems and more 'innovative' harvesting practices than industrial licensees because they are proximal to the environmental consequences of forest management decisions. Conventional logging methods (e.g. clearcutting), though economically efficient, are generally considered less likely to achieve the balance of forest values and objectives desired by society, although this also depends on the ecosystem type and numerous other variables.

4.3.1   Definitional Issues

The Silvicultural Systems Handbook (MOFR 2003c, 2.1-5) describes a number of silvicultural systems, which are defined as "planned program[s] of silvicultural treatments designed to achieve stand structure characteristics to meet site objectives during the whole life of a stand". Such treatments include specific methods of harvesting, reforestation, and stand tending. The names of different systems reflect the forest structure after an initial harvest.[42]   These include:

- *Clearcut* **(CLEAR)** – Complete removal of trees in a single harvesting operation to manage successive even-aged uniform stands;
- *Clearcut with Reserves* **(CCRES)** - Variation of the clearcut system that retains trees in small groups or dispersed for purposes other than regeneration;

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[42] See the MOFR (2008) Glossary of Forestry Terms, available online: www.for.gov.bc.ca/hfd/library/documents/glossary/Glossary.pdf

- *Patch Cut* **(PATCT)** **-** Removal of all trees from an area less than one hectare in size, creating small openings;
- *Retention* **(RETEN)** **-** Maintains single or groups of trees distributed throughout the harvested area to create an 'edge effect' covering at least fifty percent of the opening;
- *Shelterwood* **(SHELT)** **-** A system of light harvesting to remove taller, mature trees and promote the growth of an even-aged stand under the shelter of the forest canopy; and
- *Selection* **(SELEC)** **-** Harvests single scattered individuals or small groups of trees to maintain an uneven-aged stand.

Alternative silvicultural systems generally refer to those that leave a percentage of the forest canopy intact after a harvesting treatment has occurred (e.g. patch cut, shelterwood, and selection). These types of partial-cutting treatments maintain microclimatic conditions and a degree of 'forest influence' over the harvested area that would otherwise be eliminated by clearcutting (Kimmins 1992). In general, the practicability and appropriateness of a particular approach will vary depending on the balance of numerous geographic and ecological, financial, social, and sometimes political factors. If the ecological suitability of silvicultural systems is determined by their mimicry of natural processes, in some areas - such as the fire-driven forest ecosystems in the interior of the province - selective or patch-cutting may not be a suitable option. In the temperate rainforests on the coast, partial-cutting treatments may mimic natural disturbance processes and be more economically feasible given the higher value of certain species, such as western red cedar.

4.3.2   Hypothesis and Measurable Indicator

With these variables in mind, this study critically examined the proposition that CFA holders employ more alternative silvicultural systems than industrial licensees, with a specific focus on harvesting treatments. As a test, the percentage of area treated annually by different silvicultural systems was measured for CFAs and compared to TFLs. Of the types of industrial licenses,

TFLs are the most relevant comparison to CFAs because both tenures are area-based and subject to a similar set of regulatory conditions.

The analysis was based on eleven CFAs that had active logging operations at the time research was conducted, and a sample of thirteen TFLs (out of a total of thirty-four).[43] The sample included TFLs selected to represent the three forest regions in B.C., and their proximity to CFA areas (see Appendix D for a map that illustrates the locations of CFAs). It also included three TFLs held by community-based organizations.[44] Although including these community-based TFLs introduced other factors and influences to the analysis, the purpose of the comparison was to determine whether a general pattern existed between the outcomes of different tenure types (i.e. CFA vs TFL). In other words, the primary variable was the tenure rather than the tenure holder.

Data for TFLs were gathered from the MOFR RESULTS database, and data for CFAs were gathered by survey.[45] Unfortunately, due to the limited availability of information from RESULTS, the most current data for TFLs was for 2004, and the full sample of CFAs became operational only in late 2005 - early 2006. Despite the discrepancy in the year sampled for TFLs and CFAs, this was the best data available at the time of conducting research.[46]

4.3.3 Results and Observations

The total mean proportion of area treated by selection systems was greater in CFAs than in TFLs (see Tables 4.3 and 4.4, and Figure 4.1). As a group, CFAs holders also used more patch cutting than TFLs holders, although TFLs used a higher proportion of retention and shelterwood. Interestingly, the total mean proportion of areas treated by conventional industrial systems (i.e. clearcut and clearcut with reserves) did not substantially differ between the tenure types.

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[43] This sample was used for a broader study in UBC Forest Resources Management.
[44] These include the Municipality of Mission (TFL 26), the Tl'azt'en First Nation (TFL 42), and the Revelstoke Community Forest Ltd. (TFL 56). TFL 57 held by Iisaak Forest Resources Ltd. may also be considered a community-based tenure, though in 2004 it was a 51/49 joint venture between the Nuu-chah-nulth Central Region First Nations and Weyerhaeuser Ltd.
[45] CFA managers were asked to estimate the % of area treated by each system (see Appendix B).
[46] Analysis assumes harvesting treatments used in CFAs and TFLs were the same from 2004-2006 as permits and plans approved under the previous Code continued in the transition to *FRPA*.

Figure 4.1 – Comparison of Harvesting Treatments in CFAs and TFLs
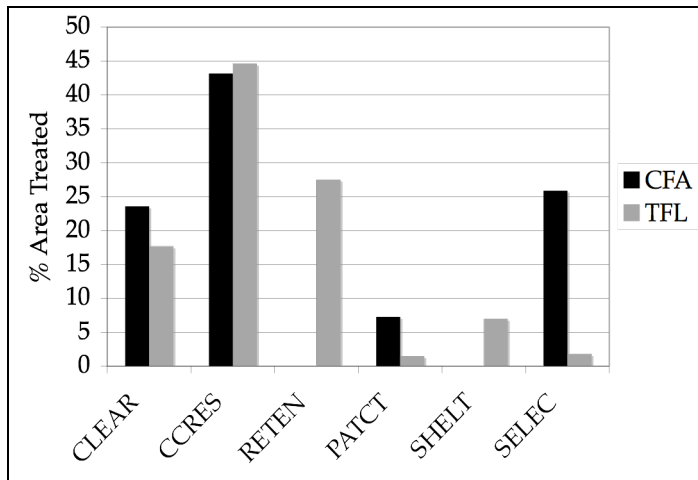
Within their respective groups, however, there is significant variation between individual CFA and TFL holders (see Tables 4.3 and 4.4). For example, CFA managers in the communities of Harrop-Procter and McBride reported using exclusively selection systems. The majority of CFAs, including Burns Lake, Fort St James, Likely-Xatsu'll, Cheslatta, Cowichan, and Westbank reported using predominantly clearcut and clearcut with reserves in their CFA area. The manager of Bamfield's CFA reported a combination of patch cut and selection, and Esketem'c reported using clearcut with reserves and selective harvesting methods in equal proportions.

The majority of TFL holders included in this study reported using mostly clearcut and clearcut with reserves (Table 4.4). Included in this category were TFL 26 and TFL 42 managed by the Municipality of Mission, and Tanizul Timber Ltd., respectively. As well, Revelstoke Community Forest Ltd. managing TFL 56 used a high proportion of clearcut and clearcut with reserves, though they also employed a variety of partial cutting systems. Among the thirteen sampled, four TFLs used predominantly retention, including TFL 57 managed by Iisaak Forest Resources Ltd., TFLs 39 and 44 managed by Weyerhauser, and TFL 38 held by Interfor.[47] Canfor's TFL 48 in northeastern B.C., the location of UBC Forestry research plots, used a high level of shelterwood systems.

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[47] In December 2005, Interfor sold TFL 38 to the Squamish First Nation.

Table 4.3: Comparison of Timber Harvesting Systems in CFAs, 2006

CFA	Community	Region	Area (ha)	AAC (m³)	% Area Harvested (2006)					
					CLEAR	CCRES	RETEN	PATCT	SHELT	SELEC
K1A	Burns Lake	NI	42,900	62,631	40	55		5		
K1B	Harrop-Procter	SI	10,860	2,603						100
K1C	Esketem'c	NI	25,000	17,000		50				50
K1D	Fort St James	NI	3,582	8,290		100				
K1E	Bamfield	C	418	1,000				75		25
K1H	McBride	NI	60,860	50,000						100
K1K	Cowichan	C	1,786	10,000	40	60				
K1L	Likely	NI	14,000	12,231		90				10
K1M	Chelsatta	NI	39,129	16,613	100					
K1P	Westbank	SI	45,693	55,000	80	20				
K1W	Ktunaxa-Kinbasket	SI	20,234	5,790		100				
CFA Total Mean					24	43	0	7	0	26

Table 4.4: Timber Harvesting Systems in TFLs, 2004

TFL	Tenure Holder*	Region	Area (ha)	AAC (m³)	% Area Harvested (2004)					
					CLEAR	CCRES	RETEN	PATCT	SHELT	SELEC
8	Pope & Talbot	SI	77,456	175,000	52	32		8		7
23	Pope & Talbot	SI	556,389	680,000	21	79				
25	Western	C	458,447	557,000	76	24				
26	Mission	C	10,584	45,000		100				
30	Canfor	NI	182,298	330,000		100				
38	Interfor	C	218,616	250,500	19		81			
39	Weyerhaeuser	C	801,393	3,547,000	4	2	94			
42	Tanizul Timber	NI	49,111	160,000		100				
44	Weyerhaeuser	C	310,795	1,327,000		18	82			
48	Canfor	NI	643,511	525,000		19			81	
52	West Fraser	SI	258,866	570,000	24	76				
56	Revelstoke	SI	119,748	100,000	34	29		11	10	16
57	Iisaak	C	87,393	123,800			100			
TFL Total Mean					18	45	27	1	7	2

* Tenure holder in 2004. Since 2004, the ownership of TFLs 38, 39, and 44 has changed.
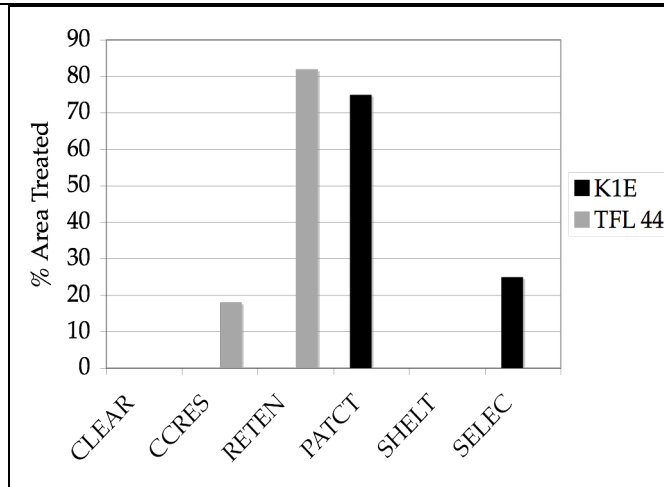
Figure 4.2: Coastal Region CFA-TFL Comparison	Figure 4.3: Northern Interior CFA-TFL Comparison
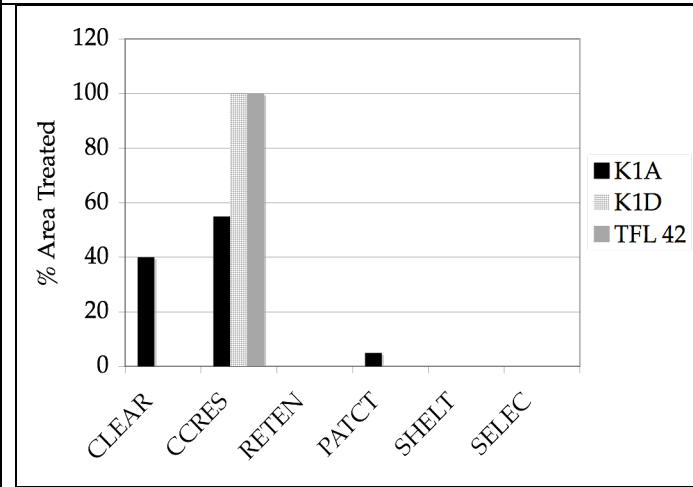
Figure 4.4: Southern Interior CFA-TFL Comparison I	Figure 4.5: Southern Interior CFA-TFL Comparison II
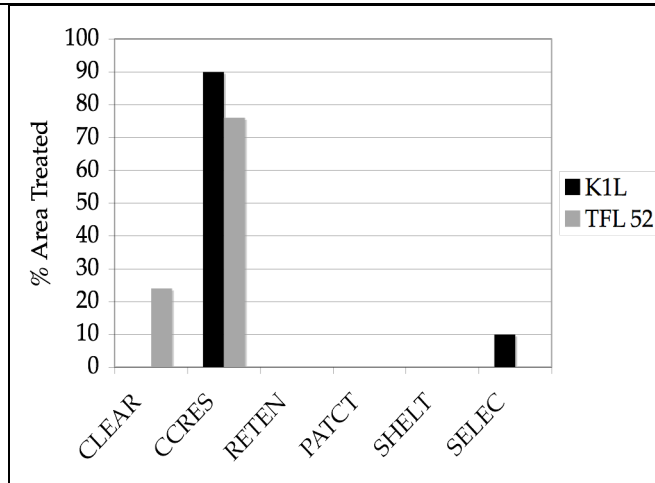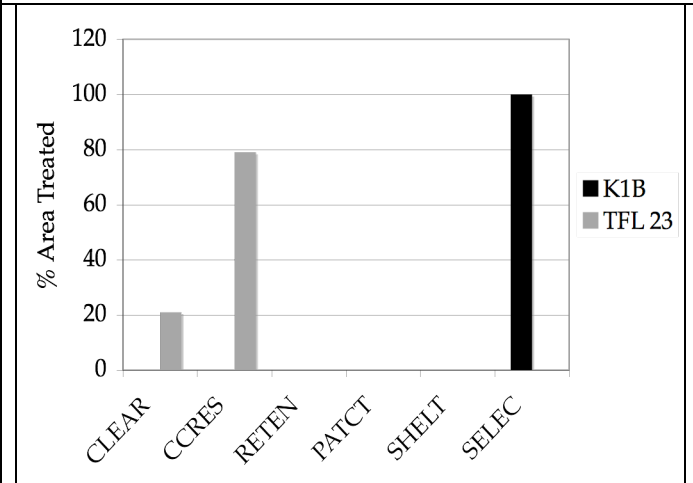
4.3.4   Analysis and Discussion

In the coast region, there are not dramatic differences between the silvicultural systems used in CFA K1E and TFL 44 since both the licensees used an 'alternative' partial-cutting treatment in the majority of their tenured area. However, the rationale for employing an alternative system likely differed. Bamfield-Huu-ay-aht Community Forest Society's decision to use patch cutting and selective harvesting was influenced by the community's objectives to promote tourism, research and education in and around the CFA area. Weyerhaeuser's decision to apply retention systems in TFL 44 was a response to high-profile and politically-charged campaigns against industrial logging in old growth temperate rainforests on Vancouver Island. The most famous of these protests in Clayoquot Sound, resulted in the licensee of TFL 44 (MacMillan Bloedel at the time) announcing its commitment to phase out clearcutting and phase in 'variable' retention – a sivilcultural system that includes a variety of partial-cutting treatments such as selection and shelterwood (Mitchell and Beese 2002). Weyerhaeuser maintained this commitment when it took over MacMillan Bloedel in 1999.[48]

In the northern interior region of B.C., there are only nominal differences in the approaches used by the CFA and TFL holders as they all employ harvesting treatments predominantly of clearcutting and clearcutting with reserves.[49] This outcome is a consequence of the mountain pine beetle epidemic, and growing prevalence of the spruce bark beetle. To deal with these infestations, the MOFR has significantly increased the harvest rates of the interior TSAs, and granted area-based licensees temporary AAC 'uplifts' to salvage the infested pine and spruce trees (MOFR 2006). As a result, tenure holders' choice of silvicultural system is actually somewhat constrained. Burns Lake, for example, originally planned to use selective systems in twenty percent of their area and employ

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[48] Another outcome of the Clayoquot protests was the subdivision of TFL 44 in 1999, forming TFL 57 managed by Iisaak Forest Resources, a unique joint venture between the Nuu-chah-nulth Central Region First Nations and Weyerhaeuser, with a mandate to practice ecosystem-based forestry. In 2005, Iisaak's TFL 57 became the first tenure to pilot an area-based AAC.
[49] Incidentally, all tenures included in this example are held by community-based organizations.

horse logging methods (McIlveen 2004), but the beetle infestation left them few other options than clearcutting and clearcutting with reserves.

In the first of two cases from the southern interior region, there is a relatively small difference between the harvesting treatments applied in the CFA and TFL. Likely-Xatsu'll's CFA K1L and West Fraser Mill's TFL 52 were both treated using primarily clearcut with reserves. These areas have also been affected by the mountain pine beetle epidemic, thus limiting licensees' choice of silvicultural systems. However, in forest stands with greater species diversity, Likely-Xatsu'll has been able to treat a minor proportion of their area using selective harvesting, removing only the dead and dying trees in an attempt to increase forest health.

In the second example from the southern interior, there is a significant difference between the systems employed in Harrop-Procter's CFA K1B and TFL 23 managed by Pope and Talbot. Harrop-Procter's decision to use exclusively selection systems in their CFA was influenced by the strong environmental values of its members and their desire to protect the community's drinking watershed where the CFA is located – a socially contentious area. Selection systems are also ecologically appropriate given the rugged and steep terrain and diverse mix of species in the forest. The tradeoff, however, is that operating costs are relatively high, and with a small AAC and limited start-up funds, the Harrop-Procter Community Cooperative is currently servicing a sizable debt (interview; Betts 2006).[50]

The expectation that communities with a CFA, in all cases, will use alternative silvicultural systems and more 'innovative' harvesting practices than industrial licensees oversimplifies the complexity of variables that forest managers face – ecological, socio-economic, and political. This is true whether the tenure is held by a community-based organization or by a large industrial forestry company. While the results do reflect some differences between CFAs and TFLs, that there are not more substantial differences between them reflect the myriad variables and conditions influencing forest managers' choice of systems. Harrop-Procter is

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[50] McBride Community Forest Ltd. also uses exclusively selection systems, but does not have the same financial challenges as Harrop-Procter. McBride also has a significantly larger AAC.

one case where there was a significant difference, although it appears to be an exceptional example.

4.4   Value-added Wood Processing

Value-added wood processing is promoted as a strategy to diversify the community forest enterprise, create additional jobs, and spur economic development. Gaining higher economic value for each cubic metre of wood may also reduce the need to harvest high volumes of timber (M'Gonigle and Parfitt 1994; Anderson and Horter 2002). *Value-added* means adding incremental value through additional processing (Kozak and Manness 2005). While value is added through the conversion of logs to basic commodity products (e.g. lumber and pulp), the term is generally used to refer to secondary or even tertiary processing to produce a more highly manufactured product such as wood flooring or furniture (Schultz and Gorley 2006).

4.4.1   Hypothesis and Measurable Indicators

If community forestry is truly a different way of doing forestry, a reasonable proposition may be that CFA holders will pursue opportunities for economic development and diversification through value-added wood processing. This study tested this expectation by measuring the following indicators:

- Presence of any timber processing capacity owned by the CFA holder;
- Top three buyers of wood harvested from the CFA; and
- Top three products manufactured from wood harvested from the CFA.

4.4.2   Results and Observations

Of eleven operational CFAs, only two CFA holders have any wood processing capacity (see Table 4.5). Burns Lake Community Forest Ltd. established a subsidiary company, Endako River Timber Ltd., and in late 2005, purchased a small sawmill capable of processing 50,000 m^3/year. The Cheslatta First Nation is a part owner of Cheslatta Forest Products Ltd., with the capacity to mill

100,000 m^3/yr, approximately half of the timber harvested from their CFA.[51] However, both of these examples are primary manufacturing facilities processing logs into dimensional lumber. Without milling facilities of their own, most CFA holders sell the majority of their wood to major licensees, as well as small volumes to small-medium manufacturers.[52] In most cases, wood is processed into commodity-grade products such as lumber, house logs, chips, and pulp.

Table 4.5: CFA Wood Processing Capacity, Buyers, and End Products

CFA	Community	Capacity	Top 3 Buyers	Top 3 Products Manufactured
K1A	Burns Lake	✓	Babine Forest Products Houston Forest Products Canadian Forest Products	Dimensional lumber
K1B	Harrop-Procter		N/A	N/A
K1C	Esketem'c		Tolko Industries West Fraser Timber other smaller companies	Dimensional lumber Plywood
K1D	Fort St. James		Pope and Talbot Canadian Forest Products Apollo	Dimensional lumber Pulp and chips Telephone poles
K1E	Bamfield		Weyerhaeuser Private buyers	Cedar shakes/shingles Dimensional lumber Pulp
K1H	McBride		Major licensee (Valemount) Major licensee (McBride)	Dimensional lumber Veneer House logs
K1K	Cowichan Tribes		Small local mills Log brokers	Dimensional lumber Poles Specialty product
K1L	Likely		Tolko West Fraser Riverside	Plywood Dimensional lumber Chips
K1M	Cheslatta	✓	N/A	N/A
K1P	Westbank		Tolko	Dimensional lumber House logs
K1W	KKDC		Tembec Bear Lumber McDonald Lumber	Dimensional lumber Building logs

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[51] Cheslatta Forest Products Ltd. is a partnership of Oosta Forest Resources and Carrier Forest Products. These companies were established before the Cheslatta First Nation obtained the CFA.
[52] In a few cases, small volumes of wood were sent directly to value-added producers although detailed data on this point was not gathered by survey. An example is Harrop-Procter Forest Products, a business owned by the Community Cooperative, that sells decking, paneling and locally crafted items using wood harvested from the CFA but manufactured elsewhere.

4.4.3 Analysis and Discussion

CFAs holders are primarily focused on harvesting timber, and with the exception of Burns Lake and Cheslatta, have not branched out into the manufacturing sector. Most CFA holders can be categorized as 'market loggers', selling their wood to industrial operators with milling facilities. Though there are two communities with primary processing capacity, the results generally contradict the premise that communities with a CFA will be strongly inclined to pursue value-added processing.

While there is a recognized need for more value-added processing to diversify the rural B.C. economy (Kozak 2007), there are some problematic assumptions embedded in this proposition – that CFA holders can or should 'do it all' themselves. In terms of efficiency, there are compelling reasons to separate timber harvesting from wood manufacturing (Parfitt 2005). Recent discussions among community forest practitioners also question whether it is desirable for a CFA holder to become vertically integrated given their relative economies of scale (BCCFA 2007). Pursuing value-added would require the community tenure holder to take on additional business risks and commit significant time and resources to amassing a substantial investment for the infrastructure needed. If communities are experiencing difficulty obtaining start-up capital to support their fledgling logging business, the potential for obtaining capital to establish primary and secondary manufacturing facilities is even more of a stretch.

These kinds of investments are also unlikely unless CFA holders have a forest area large enough to produce sufficiently high volumes of wood on a sustainable basis. Because value-added manufacturing often requires certain species and wood quality grades, the CFA's timber profile is a key consideration; only a fraction of the timber supply in CFA area may be appropriate for value-added. Success also depends on having sufficient skilled labour, flexibility to develop new products, and access to reliable markets. A more modest way for CFA holders to begin adding value to wood harvested from their CFA is to develop the capacity to sort logs. To be viable, however, proponents assert that more

volume must be directed through regional markets to garner wood producers higher value for their logs (Anderson and Horter 2002; Cathro 2004).

4.5   Local Employment

Historically, the forestry industry has been one of the main employers in rural communities throughout B.C. However, over the past few decades, the number of jobs in the sector has been declining. Presumably in response to this trend, a central goal of the Community Forest Program is to provide opportunities for local employment in the forestry sector.

4.5.1   Hypothesis and Measurable Indicators

A priority and objective for most communities with a CFA is to create and/or maintain local jobs in a variety of forestry-related activities. A related expectation is that, compared to industrial licensees, communities will rely more on low-impact and labour-intensive operations as a way of increasing employment opportunities for local people. To test this hypothesis, the study measured two indicators:

• Number of full-time equivalent employees in CFAs; and
• Labour intensity of CFAs compared to industrial licensees.

Employment data for eleven operational CFAs were gathered by survey. General managers of CFAs were asked to estimate the number of days of direct employment provided by the community forest in 2005, and the number of jobs per 1000 m^3 harvested. Their responses were used to calculate the number of full-time equivalent (FTE) employees in the CFA, and coefficients indicating labour intensity in terms of person-years per 1000 cubic metres harvested.[53.]

To compare the labour intensity of CFAs with industrial licensees, employment coefficients for CFAs were compared to those of the nearest Timber Supply Area (TSA). TSA data were obtained from the MOFR (2003c) TSR II Socio-Economic

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[53] A person-year is defined as 1 full time job of at least 180 days of employment per year (MOFR 2003). Technically, these jobs cannot be considered *new* jobs created as a direct result of the CFA due to the lack of a base case.

Analysis.[54] This comparison included data for direct employment in timber harvesting and silvicultural activities (as well as management and planning), but excluded direct employment in wood processing, as well as any indirect or induced employment. This analysis was based on the most current data available, and despite discrepancies in the years sampled, the data provided an adequate basis for comparison to identify general patterns.

4.5.2   Results and Observations

Community forest operations generally employ a few core staff on a full-time or part-time basis to coordinate the daily functions of the CFA, including, for example, a general manager, operations forester, and accountant. CFAs holders also reported hiring a number of seasonal workers, part-time employees or logging contractors to carry out the majority of activities in the community forest, including logging, road building, and planting.[55] The number of FTE working for CFAs ranged widely from less than 1 to greater than 23, with a median value of 8.3 (See Table 4.6).

Compared to the nearest TSA, the majority of CFA holders had a higher employment coefficient, indicating that community forests are more labour intensive than industrial forest operations (see Table 4.6 and Figure 4.1). However, there was some variation between communities; the coefficients for CFAs managed by Harrop-Procter and Ktunaxa-Kinbasket were significantly higher than the TSA coefficients. However, the coefficients for CFAs managed by Cheslatta and Westbank were lower than the TSA data.

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[54] Data from Timber Supply Review II, available online: www.for.gov.bc.ca/HET/tsr_sea/index.htm. For this comparison with CFAs, TSA employment data was determined to be more relevant than provincial level data because they include only those who live in and are supported by the TSA land (See MOFR 2003; pers comm. Tedder, S. 2006, Ministry of Forests and Range Economics and Trade Branch).

[55] While the CFA survey included a question requesting more detailed employment information, it received incomplete responses such that the data provided only a general description of the employment pattern.

Table 4.6 - CFA and Forest Sector Employment Coefficients

	Community	AAC (m³/yr)	FTE	CFA Coefficient	TSA Coefficient	TSA
K1A	Burns Lake	62,631	20.9	0.33	0.29	Lakes
K1B	Harrop-Procter	2,603	3.9	1.49	0.52	Kootenay Lk
K1C	Esketem'c	17,000	5.5	0.32	0.25	Williams Lake
K1D	Fort St James	23,000	8.3	0.36	0.21	Prince George
K1E	Bamfield	1,000	0.4	0.42	0.33	Arrowsmith
K1H	McBride	50,000	23.8	0.48	0.28	Robson Valley
K1K	Cowichan	10,000	3.3	0.40	0.33	South Island
K1L	Likely	12,231	4.0	0.33	0.25	Williams Lake
K1M	Cheslatta	210,000*	10.7	0.05	0.29	Lakes
K1P	Westbank	55,000	16	0.29	0.46	Okanagan
K1W	Ktunaxa-Kinbasket	14,750*	13.75	0.93	0.4	Invermere
Mean			**10.05**	**0.49**	**0.33**	
Median			**8.3**	**0.36**	**0.29**	

* includes uplift of AAC to deal with mountain pine beetle

Figure 4.6 - Comparison of Labour Intensity in CFAs and TSAs

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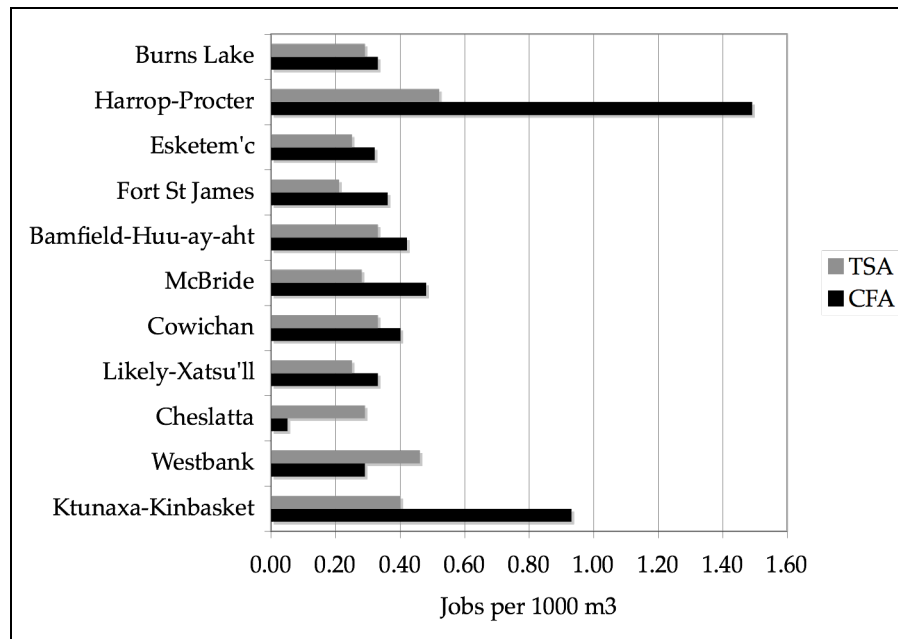
4.5.3 Analysis and Discussion

CFAs have generated employment opportunities in a variety of forestry activities, and CFAs with a larger AAC generally had a higher number of FTEs. The data also appears to confirm the expectation that CFA holders have a higher labour intensity than industrial licensees. As one manager explained, whether the community is logging 10,000 or 100,000 m^3, it is required to undertake the same level of operational planning (interview). Because CFAs have relatively low AACs compared to industrial licensees, they have fewer cubic meters – the denominator in the labour intensity equation – to absorb their labour costs, which tend to be the most substantial part of their overall operating budgets.

In some cases, higher labour intensity may be due to the communities' choice to use more selective silvicultural and harvesting systems, as in Harrop-Procter and McBride. It may also be attributable to employment opportunities that are otherwise unrelated to timber harvesting, but were included in the CFA managers' response. For example, Harrop-Procter has been able to use its relatively high profile as a community forest practicing ecosystem-based management to leverage funding for other local jobs such as internships and NTFP research (interviews). Likely has also successfully leveraged funds to support local recreational and tourism projects, and the manager of the Ktunaxa-Kinbasket CFA explained that their community created additional jobs in the community forest with funds obtained through the First Nations Forestry Program and Mountain Pine Beetle Initiative (interviews).

Cheslatta and Westbank reported lower labour intensities, which may be a consequence of receiving uplifts in AAC due to the mountain pine beetle, and associated increases in mechanization. Some CFA holders manage multiple licenses at once, allowing them to capture operational efficiencies. For example, Esketem'c, Fort St James, Cheslatta, Cowichan, Westbank, and Ktunaxa-Kinbasket all manage other forest tenures in addition to the CFA.

4.6 Summary and Conclusions

With regard to the four theoretical propositions examined in this evaluation, results generally indicate that the outcomes of the Community Forest Program have not fulfilled the high expectations of community forestry. There was, however, some variation between individual CFAs. For the propositions concerning NTFPs, and silvicultural systems, only a few CFA holders fulfilled expectations, and most did for local employment. With regard to pursuing opportunities for value-added wood processing, no communities managed to fulfill this expectation.

Most CFA holders have not diversified their forestry enterprise to incorporate the management and commercial use of NTFPs. Opportunities to exercise their rights are constrained by the extra resources required to gather information, and a regulatory vacuum that might otherwise support CFA holders to enforce their rights and administer the management of NTFPs. There is also a substantial effort required from CFA holders to develop economically valuable products and pursue lucrative markets. The real or perceived benefits of commercially managing NTFPs may not be commensurate with the time, energy and resources that would be required to diversify the forestry enterprise, particularly where CFA holders are struggling to get a viable logging business off the ground.

In general, there do not appear to be significant differences in the harvesting treatments used in CFAs and TFLs, with a few exceptions. In the interior regions of B.C., the limited difference between CFAs and TFLs is largely attributable to an escalated harvest regime precipitated by the mountain pine beetle epidemic. On the coast, the similarities between CFAs and TFLs may be a result of social and political pressures to use more selective systems, to which industrial licensees are not necessarily immune. Where there are significant differences, there has been sufficient motivation within the community to employ alternative silvicultural systems – sufficient to allow these communities to make hard financial tradeoffs to see other values and perspectives realized, as in Harrop-Procter.

For communities to pursue opportunities in value-added wood processing, there must be some clear benefits commensurate with the costs and business risks involved in expanding their operations. However, with only five-year licences, pilot and probationary CFAs have limited secure collateral with which to leverage the capital investments needed for value-added manufacturing infrastructure and product development. Value-added has also been promoted as a necessary direction for B.C.'s entire forest sector, though major industrial players have not faced the same expectations as community forests. In other words, CFAs holders are expected to be the vanguards of the sector and be willing to absorb business risk that few private sector companies would likely be willing to take on. CFA holders' focus on producing logs for commodity markets reflects the unrealistic nature of these expectations.

With regard to local employment, community forest operations provide some full time positions and contract work in harvesting and silvicultural activities. CFAs are also more labour intensive than industrial licensees operating in TSAs. While this suggests that CFAs provide more local jobs per unit of wood harvested – thereby fulfilling certain social objectives - it may also signal problems with regard to their competitiveness and economic viability. Since community forests generally operate with small margins, and saving costs is critical to their viability, CFA holders face the difficult balance between functioning as a social venture to support local employment, and at the same time, operating as a profitable business. Whereas major licensees have sought to reduce their operating costs by shedding labour, the stated intention and broad expectation of community forests is to do the opposite, even though they are also expected to be competitive in the same markets as the major players.

Chapter 5

Summary, Conclusions, and Recommendations

This study set out to test a general theory underlying the Community Forest Program: the idea that community forestry is a different approach to forest management, and that outcomes of CFAs will diverge from the industrial status quo. This chapter summarizes findings from this study, briefly discusses their implications, and recommends some areas that would benefit from further research.

5.1 The CFA as a Mechanism for Devolution

5.1.1 Summary

The purpose of the Community Forest Pilot Project was to design and test a new institutional mechanism that would provide communities with greater flexibility, security, and authority to manage local forests than existing forms of industrial forest tenure. However, the policy changes associated with the CFA are not as substantive, comprehensive, or innovative as originally envisioned.

With a few exceptions, the CFA is basically a small, modified version of the TFL. The CFA operates in the same regulatory framework designed for large-scale industrial forestry operations, although there are higher expectations of CFA holders to maintain community support and participation. The CFA may include rights to harvest and manage botanical NTFPs (in addition to timber), although these rights are not exclusive, and NTFPs are unregulated by the provincial government. CFAs may be awarded for a longer duration – potentially up to 99 years - provided communities receive a satisfactory evaluation by the MOFR after an initial five-year probationary period. Recent policy changes removed the CFA from the stumpage appraisal system, and provide CFA holders with significantly reduced stumpage rates.

As a mechanism for devolution, the CFA transfers limited power over key strategic collective-choice decisions. Consequently, communities with a CFA lack the authority to establish the strategic management direction for their forest. In particular, with only limited power to determine their own timber harvest rate (i.e. target AAC), communities may be constrained in their ability to manage for, and make tradeoffs between a variety of forest values. Communities awarded CFAs during the pilot project may have had the opportunity to calculate the appropriate and sustainable AAC for their tenured area, however, in the recent expansion of the Community Forest Program, the MOFR reasserted its power to determine the harvestable timber volume for all public lands, including those tenured to community forests.

In the management of public lands CFA holders are also responsible for developing management plans and FSPs - which allows for some expression of community values and objectives – although these plans must satisfy government objectives, which under *FRPA* regulations, must be implemented "without unduly reducing the supply of timber from British Columbia's forests" (B.C. Reg 14/2004). The current results-based forest practices code does allow CFA holders some flexibility in the operational approaches they use to achieve these objectives. However, in the current tenure regime, community control over forests largely resides at the operational level, affecting on-the-ground aspects of timber harvesting. To enable communities to set the direction of forest management would require devolving more power over key strategic and tactical level decisions (e.g. AAC determination).

5.1.2 Conclusions and Recommendations

McCarthy (2006) observed that there was generally strong support for community forestry in B.C. from a wide variety of actors - including government. Given this support, at least in principle, it is ironic that the CFA is so limited in its uniqueness as a tenure. Although this study did not explicitly investigate *why* there was limited devolution, it is possible that the limited change is a consequence of the resistance by powerful actors to resist significant changes to a system that satisfies their interests. Also, as a general rule, governments resist

giving up power and seek to maximize political gains from their decisions, for which the timing of the Community Forest Program's expansion in the months before an election and during a downturn in the forest industry seems to serve as evidence. While this study did not examine the political economy of the CFA's formulation in depth, it is clear that the tenure represents, at best, tentative incremental change rather than a meaningful and robust effort at adaptation or innovation.

The analysis seems to suggest that devising institutional reforms in keeping with the theoretical premises of community forestry and the original intentions of the pilot project requires more than simply tweaking a property rights arrangement within the existing tenure system. To create the space for meaningful community participation and to encourage more novel and adaptive approaches to forest management, government should devolve more power over certain strategic decisions, particularly the authority to set a target AAC (within a provincially defined limit).

This proposal raises a number of issues that warrant careful consideration. Pursuing deeper structural reforms for devolution would create a more complex and multi-layered system of forest governance. A general but critical question is, which decisions are most appropriately dealt with at what level of governance?

In B.C. a major challenge to devolution is reconciling the transfer of authority with the Crown's fiduciary duty to First Nations, and its duty to consult on and accommodate Aboriginal rights and potential title. Because the fiduciary duty is vested in the Crown – indeed, the "honour of the Crown" is at stake when decisions are made that may affect Aboriginal rights – devolving authority away from the Crown would doubtless have significant legal implications which are not yet well defined or understood.

A further issue is whether a transfer of greater management authority to CFA holders would be equitable from the perspective of other non-local (i.e. urban-based) British Columbians that also have a stake in the forest. While the Community Forest Program supports the social and economic development of

rural communities, it may impinge on other British Columbian's right to 'have a say' in how forests are managed and for what.

If CFA holders were to take on greater power and responsibility for governance functions associated with forest management in B.C., they may require capacity-building and additional financial resources. How would CFA holders balance their responsibility as accountable representatives of their communities, while accounting for the interests and values of the broader 'public' in B.C., and at the same time running a financially solvent business? How can accountability to the community and broader public be written into the institutional arrangements? What organizational structures and processes best facilitate meaningful participation in decision-making at a local level?

There are no clear answers to any of these questions, and the CFA is generally silent on the issue of accountability.[56] This reinforces the need for a more adaptive approach to new models of decentralized forest governance that treats many different institutional arrangements as experiments in progress. While CFA operations are routinely audited, the lack of a meaningful evaluation plan for the Community Forest Program suggests that there is little appetite for government to take this kind of adaptive approach.

5.2   Expectations and Outcomes of the CFA

5.2.1   Summary

Prior to any comprehensive evaluation by the MOFR, the CFA was established as part of a full-fledged program; its popularity has relied on broad and previously untested assumptions about community forestry in B.C. This study critically examined a series of hypotheses about the CFA and tested the theory that community forestry results in 'different' outcomes compared to more conventional industrial approaches to forest management.

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[56] For a general discussion on these issues, see Antinori and Bray (2005) and Tyler et al. (2007).

Multiple Non-Timber Values

Only a few communities with a CFA took advantage of their expanded rights to harvest NTFPs for commercial use. For those communities that did, it was not a particularly lucrative venture. Among some CFA holders there is interest to explore opportunities to commercially develop NTFPs. However, without inventories of botanical species growing in their tenured areas, and without knowledge about sustainable harvest rates or well-developed markets to sell their products, much investment is required before CFA holders' rights to NTFPs have any practical value.

Alternative Silvicultural Systems and Harvesting Treatments

CFA holders utilized a range of harvesting treatments, challenging the general assumption that they have both the flexibility and inclination to use more environmentally sensitive partial-cutting treatments than industrial licensees. Within the terms and conditions of their tenure, CFA holders have some authority and flexibility to decide which harvesting treatments are appropriate to use in their tenured area. In some cases, however, communities' choices were limited by circumstances beyond their control. For example, tenure holders throughout the interior regions of the province have been affected by the mountain pine beetle epidemic, prompting a salvage harvesting initiative and the application of clearcutting as the dominant treatment across the landscape.

Value-added Wood Processing

None of the CFA holders included in this study have yet pursued opportunities for value-added wood processing, although two communities own and operate primary milling facilities. In general, community tenure holders' capacity to expand their forestry business into the secondary manufacturing sector has been limited by the small scale of their operations, limited access to capital, and the significant investments and financial risks involved.

Local Employment and Labour Intensity

Community forest operations support some local employment. That CFAs are generally more labour intensive than industrial licensees, may be interpreted to mean that they are creating relatively more employment in certain activities,

although it may also indicate that they are not operating with the same economic efficiencies as major licensees. Thus, in a market heavily dominated by large vertically-integrated licensees, the expectation that CFAs will be more labour intensive sits directly opposite the expectation that they will operate as viable and competitive businesses.

5.2.2 Conclusions and Recommendations

Among individual CFAs there is some variability in outcomes, indicating that besides the tenure, there are a wide variety of factors influencing their outcomes on the ground. More in-depth case studies may provide greater insight into the combinations of variables – social, ecological, institutional, and political – that give rise to particular outcomes at the local level. However, the purpose of this study was to provide a broad overview of outcomes of the Program as a whole. The outcomes revealed in the study challenge some of the premises underlying the high expectations of community forestry in B.C.

Some of these expectations – for example, that 'community' is an inherent nexus of sustainability – are blind to the number of complex variables and interactions that constrain communities, or any licensee for that matter, in their management decisions. There are many examples. A notable one of late is the challenge in devising effective management strategies to address the mountain pine beetle infestation. More generally, meeting community objectives to diversify operations to access new markets – for example, for value-added products and NTFPs – will invariably be affected by the timber profile and ecological context. CFAs are also subject to a myriad other macro-level forces, such as currency exchange rates, global market fluctuations, and the increasing competition advantage of plantations in the global South. Pre-existing or peripheral conflicts may also be drawn into the politics of the community forest, creating additional difficulties for participatory decision-making.

CFA holders must strive to balance community objectives within the constraints of objectives set by government. Those communities that are endeavouring to realize community objectives that deviate from government's heavy emphasis on

timber-harvesting have fought to create the political space within the existing regulatory system to allow them to do so. They have also struggled to develop the financial and human capacity to allow them to undertake what, in the existing system, are 'innovative' and likely more expensive management approaches. The expectations of community forestry largely overlook this risk or assume it is one that communities are inherently willing and able to take.

However, in an age where competition in the global market has driven large licensees to consolidate as a means to control costs, small tenure holders must struggle to be economically viable in the same markets as major licensees when they do not have the same advantages of economies of scale, particularly in the wood manufacturing sector. It is even more difficult for communities to achieve the expectations of responsible 'social licence' and environmental stewardship on the one hand, and on the other, to compete with major industrial licensees at their own game.

Given these scale constraints, it would seem logical to recommend increasing the size of CFAs to improve their competitive position. The BCCFA (2004) has advised that a minimum harvest of 20,000 m^3/year on the coast and 50,000 m^3/year in the interior would be viable, although Parfitt (2007) referenced a report suggesting that at least 100,000 m^3/year is necessary. A recent review of the Community Forest Program observed that a quantitative analysis of a minimum volume requirement for the economic viability of community forests has never been undertaken (Meyers Penny and Norris and Enfor Consultants 2006). There is a clear need for research that assesses options for optimizing the economic viability of community forestry. However, any assessment should examine not only allocated volumes of timber, but mechanisms to maximize value derived from forest resources.

5.3   Final Thoughts

Given the various challenges that communities continue to face, the fact that some CFAs were successful in fulfilling high expectations is a feat worthy of praise. While the Community Forest Program may not live up to all expectations

and the CFA devolves only limited control, it represents a first step in the diversification of the tenure system that may prove to be a force for further policy change.

Growing numbers of communities are directly involved in the forestry sector. This change in the composition of tenure holders in B.C. may provide the critical mass necessary to generate leverage to overcome political resistance and to advocate for change. The establishment of the BCCFA is an important part of the program's evolution. The BCCFA is a member-driven network, playing a coordinating function, linking together small and relatively isolated communities to help overcome some of the challenges posed by the limitations of scale and capacity. One indication of the organization's collective power occurred in 2006, when CFA holders successfully negotiated a stumpage break.

Community forestry in B.C. will continue to be a work in progress, driven by dedicated individuals around the province. Inevitably, community forests in B.C. will continue to evolve as they gain more experience; hopefully towards a system of forest management and governance that can adapt to changing conditions and is sustainable over the long term.

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Appendix A

Interview Templates

i) Community Forest Agreement Holders

The following interview(s) will be conducted with the General Manager of the Community Forest, a Board member, Executive Director (or equivalent) or some combination. The purpose of the interview is to document community forest practitioner's experiences and perspectives on the CFA.

Interview Questions

1. What is your job and your role with your organization? How long have you held this position?
2. How do you see CFAs being different from other tenures?
3. What do you consider unique about your CF? What are you most proud of?
4. What do you think are the most important criteria/indicators that should be used to measure the 'success' of community forestry?
5. Where do you see your community forest succeeding in achieving its vision and management objectives? Where do you see that it is blocked?
6. How are benefits (i.e. financial revenues) from the community forest distributed?
7. Do you feel supported in your efforts? Who could support you more, and in what way? (i.e. MOFR, BCCFA, others?)
8. Are there elements of the CFA that you would like to see changed? (i.e. standards, regulations, processes)? How do you think they should change?
9. What are your impressions of the expansion program for CFAs?
10. The Matrix (see below) is meant to illustrate 'local control' by the level of decision-making authority and the type of forest management functions. Using the matrix below;
    a. What level of decision-making authority does your Community Forest have for each forest management function?
    b. What management functions do you think are most important for communities to sustainably manage their forests?

Functional Power Matrix

	Management Function	Lowest	Low	Med.	High	Highest
Strategic	Land Use Planning					
	Resource Inventories					
	Harvest Levels					
	Allocating Resource Rights					
	Economic Rent					
	Standards of Practice					
	Compliance & Enforcement					
Tactical	Dispute Resolution					
	Management Planning					
	Monitoring & Evaluation					
Operational	Site Planning					
	Operational Activities					
	Manufacturing & Marketing					

ii) Ministry of Forests, Community Forestry Advisory Committee, and other partners

The following questions will be asked of key contacts from the Ministry of Forests, the Community Forestry Advisory Committee (CFAC), and other partners. The purpose of the interview is to gather different perspectives and information on the development and evolution of the Community Forest Agreement (CFA).

Interview Questions:

1. In your opinion, during the lead-up to the CF pilot project, what were the 3 most influential factors (events, ideas, actors, etc) that brought CF onto the political agenda?

2. What was the MoF/CFAC's original vision for the community forest tenure?

3. What recommendations did the CFAC make to the Minister of Forests? Were there differences between their vision and the policy? In your opinion, what were the most significant differences?

4. Have there been changes along the way as the CFA has been implemented? What were those changes? [i.e. invitation, evaluation process, etc]

5. In your opinion, have the outcomes of the community forest pilots met MoF/CFAC expectations and objectives? Please elaborate on why or why not?

6. What were the motivating factors behind the CF expansion program? [i.e. softwood lumber, First Nations, election, etc]

7. What was the process directing the tenure take-back and reallocation through the Forest Revitalization Plan?
   a. How were decisions made? Who was involved?
   b. How were the take-back areas negotiated with recently invited CFAs?

8. In your opinion, what are the government's interests in supporting and expanding the CF program?

9. Why aren't there more CFs? Was there a decision to limit the number of CFs? If so, why?

10. What do you see is the government's current role in relation to enabling community forests in BC? What role do you see for the CFAC in the future of the CF program?

11. How much funding in the MoF is dedicated to community forestry? How much staff time? Do you feel this is adequate staff and support?
12. Have any unanticipated benefits been realized from the CF pilot project?
13. What challenges do you see the CFAs (pilots and new invitations) dealing with?
14. How do you see CFAs being different from other tenures? What do you think are the most important differences between the CFA and other tenures?
15. Are there elements of the CFA and/or regulations that you would like to see changed? What do you think should change, and why?

Appendix B

CFA Survey Template

Community Forest Agreement Questionnaire

For Community Forest Agreement Holders in BC

Who Should Complete the Survey	Survey Instructions	Confidentiality
• This survey is designed to be completed by Managers or Directors of Community Forests in BC. • Participating in this survey is voluntary. • By completing the survey you give your consent to participate in the study.	• This survey will take approximately 30-45 minutes to complete. • Where a list of potential answers are given, circle the answer that best reflects your opinion or experience. • Where you are asked for specific information, please do your best to provide an accurate response. • Leave questions blank if you are not comfortable answering them. • Return the completed survey using the enclosed self addressed envelope.	• Information from this survey is confidential. • Results from this study will be reported in summary form to maintain the anonymity of each participant. • The study investigators (Lisa Ambus and George Hoberg) will have sole access to the completed survey.

_____

Questions 1 to 4 ask about general features of your community forest.

1. Where is your community forest located? (nearest community and forest district)

2. What is the total area (in hectares) of your community forest?

3. What is the Timber Harvesting Land Base (THLB) of the community forest, if different from the total area of the community forest?

4. What is the Annual Allowable Cut (m^3) of your community forest?
   - In 2004:
   - In 2005:

Questions 5 to 14 explore the governance processes in your community forest.

5. What type of organization holds the Community Forest Agreement? *Please check one.*

☐	Society
☐	Municipality
☐	First Nation
☐	Corporation
☐	Co-operative
☐	Partnership
☐	District
☐	Other (please describe)

6. In the governing body of your community forest, how are members selected? *Please check all that apply.*

☐	Elected
☐	Appointed
☐	Invited
☐	Other (please describe)

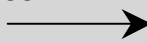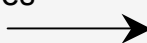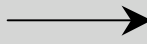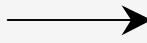7. What groups/interests are represented in the governing body of your community forest? *Please check all that apply.*

☐	Local government
☐	First Nations
☐	Environmental Groups
☐	Forest Industry
☐	Youth
☐	Recreation/Tourism
☐	Educational Institutions
☐	Rancher or Farmer
☐	Other (please describe)

8. How many days of employment does the community forest provide per year?

9. How many people work for the community forest on a day to day basis, and what positions do they hold? Are these positions Full time, Part time or contract?	Full Time* #	Part Time #	Contractor/ Consultant #
General Manager / Coordinator	_____	_____	_____
Forester	_____	_____	_____
Administrator	_____	_____	_____
Field Assistant	_____	_____	_____
Logger	_____	_____	_____
Others (please describe)	_____	_____	_____

* Full Time is at least 180 days of employment per year.

For the following, please check either Yes or No. If you selected Yes to any of the following questions please respond to the question to the right.

10. Does your community forest rely on volunteers?	☐ No ☐ Yes ⟶	If Yes, approximately how many volunteer hours per month?
11. Do employees of the community forest work any unpaid hours?	☐ No ☐ Yes ⟶	If Yes, approximately how many days of work are unpaid per year?
12. Does your community forest use consensus based decision making?	☐ No ☐ Yes ⟶	If Yes, what types of decisions are made via consensus?
13. Has your community forest identified a conflict resolution process should conflicts arise?	☐ No ☐ Yes ⟶	If Yes, What problems have come up, if any? *(Please use the reverse of the page if you need more space)*

14. How do you inform the public about the community forest? **Please rank the top 5 methods in the following list.** Giving a score of 1 indicates it is the most frequently used method of information sharing.

_____	a)	Informal conversations
_____	b)	Public meetings
_____	c)	Open houses
_____	d)	Educational tours / field visits
_____	e)	Steering Committees
_____	f)	Newspaper articles
_____	g)	Advertisements
_____	h)	Radio
_____	i)	Brochure
_____	j)	Newsletter
_____	k)	Website
_____	l)	Monitoring activities (i.e. water quality)
_____	m)	Other (please describe):

Questions 15 to 21 focus on forest management practices.

15. Which of the following silvicultural system(s) are predominantly used to harvest timber from the community forest? **Please identify the top 3 systems used each year**.

	2001	2002	2003	2004
Clearcut Removal of the entire stand of trees in a single harvesting operation from an area, and is designed to manage the area as an even aged stand.				
Clearcut with Reserves Variation of clearcut where trees are retained uniformly or in small groups for purposes other than for regeneration.				
Intermediate Cut A harvest entry prior to a final harvest, leaving enough trees so that the area remains fully stocked.				
Patch Cut Removal of all trees from an area less than 1 ha in size.				
Retention Retains single trees or groups of trees distributed throughout the cutbolck, with edge effect influence covering at least 50% of the opening.				
Shelterwood Old stand is removed in a series of cuttings to promote the establishment of new even-aged stand under the shelter of the old one.				
Seed Tree Clearcut excluding those trees selected for purpose of supplying seed.				
Selection systems Remove mature timber either as single scattered individuals or in small groups at relatively short intervals, repeated indefinitely, where an uneven-aged stand is maintained.				
Other (please describe):				

For the following questions please check either Yes or No. If you selected Yes, please respond to the question to the right.

16. Is the community forest certified under a sustainable forest management certification scheme?	☐ No ☐ Yes ➔	If Yes, under which certification system? ☐ FSC ☐ CSA ☐ SFI
17. Has the community forest been inspected by the MOFR Compliance and Enforcement Branch?	☐ No ☐ Yes	
18. Has the community forest ever been found to be in contravention of the Forest Practices Code?	☐ No ☐ Yes ➔	If Yes, what was the contravention?
19. Have any compliance actions or enforcement actions ever been applied to the community forest?	☐ No ☐ Yes ➔	If Yes, what action was taken?

20. What area of land and volume of timber has been harvested each year in the community forest?

Year	Area Harvested (hectares)	Actual Volume harvested (m³)
2001		
2002		
2003		
2004		

21. If the Actual volume harvested from the community forest is different than the AAC, please indicate why the difference occurred (for example, mountain pine beetle, fire, etc).

Questions 22 to 31 look at economic factors related to your community forest.

22. What were the approximate start-up costs for your community forest? (i.e. planning, management, and operational costs during the first year).
Please check one.

☐	< $10,000	☐	$105,000 - $119,999
☐	$10,000 - $24,999	☐	$120,000 - $134,999
☐	$25,000 - $34,999	☐	$135,000 - $149,999
☐	$35,000 - $49,999	☐	$150,000 - $174,999
☐	$50,000 - $74,999	☐	$175,000 - $189,999
☐	$75,000 - $89,999	☐	$190,000 – $204,999
☐	$90,000 - $104,999	☐	>$205,000

23. What kinds of Non Timber Forest Products (NTFPs) does the CF produce, if any?
Please check all that apply.

☐	Mushrooms
☐	Cedar or fir boughs
☐	Medicinal herbs
☐	Berries
☐	Floral Greens
☐	Honey
☐	Nuts
☐	Other (please describe):

24. Where does the CF sell its wood? Who are the top 3 buyers?

1	
2	
3	

25. To the best of your knowledge, what are the top 3 products manufactured from wood harvested from your community forest?

1	
2	
3	

For the following questions please check either Yes or No. If you selected Yes, please answer the question to the right

26. Has the CF received any in-kind contributions?	☐ No ☐ Yes ➝	If Yes, what was contributed?
27. Have you received any external funds (i.e. grants) to support the CF?	☐ No ☐ Yes ➝	If Yes, where were did these funds come from, and what was the value ($)?
28. Have any new businesses started up as a direct result of the CF?	☐ No ☐ Yes ➝	If Yes, please list them.

Recognizing the sensitive nature of the following information, approximate numbers would be greatly appreciated. All data will remain confidential.

	2001	2002	2003	2004
29. What does the community forest pay annually to the province for land rent?				
30. How much revenue has the community forest earned from timber harvesting?				
31. How much revenue has the community forest earned from non timber forest products?				

The last set of questions is designed to get a general sense of your perceptions of opportunities and constraints for community forests.

32. Based on your experience with community forestry in BC, please indicate your level of agreement with the following statements.

    A score of **1** indicates that you **strongly disagree** with the statement. A score of **5** indicates that you **strongly agree** with the statement.   Please only mark one.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a)	The Community Forest Agreement (CFA) gives our community sufficient decision making authority to meet our forest management goals and objectives.	1	2	3	4	5
b)	Management decisions in our community forest are informed by and respond to a wide range of social and cultural values.	1	2	3	4	5
c)	Community forest management is more sustainable than large scale industrial forestry.	1	2	3	4	5
d)	The CFA program should be expanded.	1	2	3	4	5
e)	Our community forest is located in an ecologically sensitive area.	1	2	3	4	5
f)	The community forest is located in close proximity to our community.	1	2	3	4	5
g)	Our community forest of sufficient size to be economically viable.	1	2	3	4	5
h)	The majority of people in our community are interested and involved with the community forest.	1	2	3	4	5
i)	The process of obtaining and managing the community forest has brought our community closer together.	1	2	3	4	5
j)	There is balanced gender representation on the community forest Board.	1	2	3	4	5
k)	Worker and community safety is maintained within acceptable levels in the community forest.	1	2	3	4	5
l)	Our community forest has diversified the local economy.	1	2	3	4	5
m)	On average, the community forest has been profitable.	1	2	3	4	5
n)	The community forest provides stable employment.	1	2	3	4	5
o)	Our community is interested in obtaining a long term CFA.	1	2	3	4	5
p)	Forest management practices in our community forest exceed what is required by the Forest Practices Code.	1	2	3	4	5

33. Please indicate the extent to which the following factors inhibit you from practicing sustainable forest management in the community forest.

A score of **1** indicates that the factor is **not at all challenging.** A score of **5** indicates that the factor is **extremely challenging**

		Not at all challenging	Slightly challenging	Somewhat challenging	Very challenging	Extremely challenging
a)	Accessing markets	1	2	3	4	5
b)	Stumpage payments	1	2	3	4	5
c)	Community capacity (i.e. forestry experience)	1	2	3	4	5
d)	Timber pricing system	1	2	3	4	5
e)	AAC is too low	1	2	3	4	5
f)	Land base productivity	1	2	3	4	5
g)	Administrative requirements	1	2	3	4	5
h)	Planning process	1	2	3	4	5
i)	Silviculture obligations	1	2	3	4	5
j)	Cutting and road permit application process	1	2	3	4	5
k)	Forest health concerns	1	2	3	4	5
l)	Softwood lumber countervailing duty	1	2	3	4	5
m)	Other (please describe)	1	2	3	4	5

Participant Information. This will be kept confidential and will be used only to ensure the project investigator Lisa Ambus has accurate contact information for the community forest.

Name (First, Last):	
Organization:	
Position:	
Postal Address:	
Postal Code:	
Telephone:	
Fax:	
Email:	
☐ Please check if you would like to receive a summary of the research.	

Please return the completed survey in the self-addressed and stamped envelope.

Thank you!

Appendix C

List of pilot CFAs Awarded 1999-2004

No.	CFA Holder	Date Issued	Area (ha)	AAC (m³)
K1A	Burns Lake Community Forest Corporation	July 2000	42,900	62,631
K1B	Harrop-Procter Community Cooperative	July 2000	10,860	2,603
K1C	Esketem'c First Nation	Feb. 2001	25,000	22,000
KID	District of Fort St. James	Mar. 2001	3,582	8,290
K1E	Bamfield Huu-ay-aht Community Forest Society	Sept. 2001	418	1,000
	North Island Woodlot Corporation	*rescinded*		
	Islands Community Stability Initiative (ICSI)	*rescinded*		
K1H	McBride Community Forest Corportaion	Aug. 2002	60,860	50,000
	Bella Coola Nuxalk Resource Society[⊗]	*stalled*		
KIK	Cowichan Tribes First Nation (Khowutzun Forestry Services)[★]	Dec. 2004	1,786	10,000
K1L	Likely-Xats'ull Community Forest Corporation	Mar. 2003	14,000	12,231
K1M	Cheslatta First Nation[★]	Oct. 2002	39,129	210,000
K1P	Westbank First Nation[★]	Aug. 2004	45,693	55,000
K1W	Ktunaxa Kinbasket First nation Development Corporation[★]	Oct. 2004	20,234	5,790
			264,462	**439,545**

[⊗] A renewed offer was made to the Nuxalk First Nation, and the Bella Coola Resource Society received a separate invitation to apply for a CFA in 2004.
[★] Awarded under special circumstances (i.e. interim measures to treaty).

Appendix D

Map of Pilot CFAs in B.C.

Map 1: British Columbia Community Forest Pilot Agreements

Adapted from GoBC, MoF: Community Forest Agreement Program
Annual Report 2001-2002 and CFPA Status Table, April 2006

CFPA Holder: District of Fort St. James
Status: CFPA signed March 7, 2001
Agreement Area: 3,582 hectares
Approved Harvest Rate: 8,290 m³/year

CFPA Holder: Burns Lake Community Forest Ltd.
Status: CFPA signed July 7, 2000
Agreement Area: 23,325 hectares
Approved Harvest Rate: 54,026 m³/year

CFPA Holder: Likely Community Forest Corp.
Status: CFPA signed March 21, 2003
Agreement Area: 14,000 hectares
Approved Harvest Rate: 12,231 m³/year

CFPA Holder: Cheslatta First Nation
Status: CFPA signed Dec 2, 2002
Agreement Area: 39,129 hectares
Approved Harvest Rate: 16,613 m³/year

CFPA Holder: Village of McBride
Status: CFPA signed August 15, 2002
Agreement Area: 60,860 hectares
Approved Harvest Rate: 50,000 m³/year

CFPA Holder: Ktunaxa Kinbasket
Status: CFPA signed Oct 10, 2004
Agreement Area: 20,234 hectares
Approved Harvest Rate: 5,790 m³/year

CFPA Holder: Esketemc First Nation
Status: CFPA signed Feb 16, 2001
Agreement Area: 25,000 hectares
Approved Harvest Rate: 17,000 m³/year

CFPA Holder: Bamfield Huu-ay-aht
            Community Forest Society
Status: CFPA signed Sept 20, 2001
Agreement Area: 418 hectares
Approved Harvest Rate: 1,000 m³/year

CFPA Holder: Cowichan Tribes
Status: CFPA signed Dec 31, 2004
Agreement Area: 1,786 hectares
Approved Harvest Rate: 10,000 m³/year

CFPA Holder: Harrop-Procter Watershed
            Protection Co-op
Status: CFPA signed July 27, 2000
Agreement Area: 10,860 hectares
Approved Harvest Rate: 2,603 m³/year

CFPA Holder: Westbank First Nation
Status: CFPA signed Aug 27, 2004
Agreement Area: 45,693 hectares
Approved Harvest Rate: 55,000 m³/year

Masset
Queen Charlotte
Burns Lake
Ft. St. James
McBride
Likely
Bella Coola
Williams Lake
Comox
Courtenay
Harrop, Procter
Nelson
Bamfield

Scale
1:8000000 (approx.)
50   0   50 100 150   200 kilometres

(Prudham 2007)