CREATING THE CONDITIONS FOR SUSTAINABLE COMMUNITY FORESTRY IN B.C.: A CASE STUDY OF THE KASLO AND DISTRICT COMMUNITY FOREST

by

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B.A. Hons McGill University 1995

RESEARCH PROJECT SUBMITTED IN PARTIAL FULFULLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF NATURAL RESOURCES MANAGEMENT

in the

School of Resource and Environmental Management

Report No. 267

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SIMON FRASER UNIVERSITY

JUNE 2000

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Degree: Master of Natural Resources Management
in the School of Resource and Environmental Management

Report No. 267

Title of Research Project:

Creating The Conditions For Sustainable Community Forestry In B.C.: A Case Study Of The Kaslo and District Community Forest

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ABSTRACT

There is widespread interest in exploring the viability of community forestry as a potential solution to the problems facing forest management and forest-dependent communities in British Columbia. The goal of community forestry to strike a balance between economic, social and ecological values is not easy to attain. With the aim of improving our understanding of how to achieve this goal, this research explores the conditions that enable sustainable community forestry through a study of the Kaslo Community Forest in the Kootenay region of B.C.

To this end, the research begins by determining what conditions for sustainable community forestry are presented in the relevant literature. Both the fields of community-based natural resource management and community economic development provide important insights into the variables that can make or break community forestry initiatives. A case study of the Kaslo Community Forest grounds the discussion of these variables in the British Columbia context, making them more relevant to communities in this province. Through the case study, the enabling conditions for sustainable community forestry are analyzed, and a few factors not previously mentioned in the community forestry literature are identified. These include the capacity of community-based organizations to demonstrate the benefits of their efforts to the community, and the ability of the members of these organizations to learn how to work together.

This research results in a list of enabling conditions that I propose to be necessary for sustainable community forestry. In addition, the analysis also permits me to hypothesize which conditions are particularly important for ecological sustainability in community forest management. Many of the most important conditions are interrelated and success is most likely where there is synergy among the conditions.

In the case of the Kaslo and District Community Forest Society, this synergy is not complete as several key enabling conditions are missing. This presents a challenge for the Society as it attempts to implement its wholistic objectives. The forest tenure arrangement that governs the community forest is responsible for many of the difficulties. Consequently, the Ministry of Forests plays a critical role in ameliorating the situation and could take a number of steps to improve the chances that the Society will succeed in managing its local forest resources in a manner that maintains ecological integrity and supports local livelihoods.

ACKNOWLEDGEMENTS

A number of people and organizations made significant contributions to the development of this research. First I would like to thank the Kaslo And District Community Forest Society Board and staff, as well as the members of the Planning Committee, who openly shared their experiences and ideas about community forestry. I am especially grateful to Susan Mulkey, Bill Plant, and Greg Lay for providing insightful feedback on my work. My senior supervisor Evelyn Pinkerton offered guidance, constructive criticism, and constant encouragement, for which I am very grateful. Thank you also to Mark Roseland for keeping me on track. I would like to thank Mountain Equipment Coop for providing the financial support that made this work possible. Finally, I would like to express my gratitude to Pat Mallet for his unending support and careful critique of my work.

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FREQUENTLY USED ABBREVIATIONS

Allowable Annual Cut • The volume of timber approved (every five years) by the Chief Forester of B.C. to be logged annually. AACs are set for timber supply areas, tree farms and woodlots (WCEL 1999).	AAC
British Columbia	B.C.
Community-based Natural Resource Management	CBNRM
Community Economic Development	CED
Forest Licence • A type of forest tenure that confers the right to harvest an annual volume of timber within Timber Supply Area.	FL
Forest Practices Code Act • The legislation, regulations and guidebooks that govern forest practices in B.C. (WCEL 1999)	The Code
Kaslo Community Forest	KCF
Kaslo and District Community Forest Society	KCFS
Ministry of Forests	MOF
Timber Supply Area • An integrated resource management unit established in accordance with section 6 of the *Forest Act.* TSAs were originally defined by an established pattern of wood flow from management units to the primary timber-using industries (WCEL 1999).	TSA

1. INTRODUCTION: THE PROBLEM AND AN ALTERNATIVE

British Columbia's forests are currently being managed in a way that is ecologically, economically and socially unsustainable (Burda et al. 1997, Clapp 1998, Hammond 1991, Marchak et al. 1999). This situation results from a long history of centralized decision-making that favours the concentration of rights to forest resources in large firms, and is focused on the export of low value commodities (Clapp 1998, Markey and Pierce 1999, M'Gonigle 1996). This export and mass production orientation has left the forest industry and the communities that depend on it vulnerable to the boom and bust cycle of commodity markets. Today the British Columbia (B.C.) forest industry generates fewer jobs and less value per unit of wood cut than any other industrialized forest economy in the world (Fulton 1998). These problems, discussed in detail in section 1.2.1, are exacerbated by the fact that the forests in several regions of the province are being mismanaged, resulting in degraded watersheds, loss of habitat, and the declining value of forest ecosystems for timber as well as for purposes other than timber extraction (Marchak et. al 1999).

An alternative community-based model, called community forestry, which is designed to promote economic, social, and ecological sustainability, is demonstrating other possibilities. At the core of community forestry are community-based management rights that enable local communities to become more active partners in and greater beneficiaries of their management. Increasingly it is thought that community forestry could solve a number of the dilemmas created by centrally managed industrial forestry. Until 1999, only a few models of community forestry existed in B.C. The majority of them fall short on design elements that could promote ecological sustainability. One exception could be the Kaslo and District Community Forest Society. This group appears

to be finding a way to harvest trees, create jobs and incorporate public input *while* protecting ecosystem values, thus laying the foundation for a sustainable community forest. This research explores community forestry as an alternative forest management model and, using a case study, outlines the enabling conditions for sustainable community forestry in B.C.

1.1 THE RESEARCH QUESTIONS, PURPOSE, AND RATIONALE OF THE RESEARCH

What is required to make sustainable community forestry a reality? More specifically, what conditions are likely to lead to sustainable community forestry in B.C.? This paper attempts to answer these questions by posing the following research questions:

1. What conditions for sustainable community forestry are presented in the relevant literature?
2. How does a B.C. case study inform our understanding of the enabling conditions for sustainable community forestry?

The rationale for pursuing these questions lies in the growing demand for community managed forests in B.C. In 1998, in response to a Ministry of Forests call for expressions of interest, over eighty communities in B.C. voiced their desire to establish community forests (British Columbia 1998a). A large body of social science research, discussed below, suggests that if a community wants to successfully engage in community forestry, that community must possess particular qualities and certain conditions should be present. These conditions refer to both circumstances within the community, such as the existence of appropriate leadership and broad community support for the idea, and to circumstances outside of the community, such as the meaningful sharing of management authority between the provincial government and the community.

The purpose of this research is to improve our understanding of what is important for the success of sustainable community forestry in B.C. To this end, I will first identify

the conditions associated with successful sustainable community forestry in the literature. Because of the small number of community forests operating in B.C. and the limited amount of research on the subject, these "conditions" have not been determined for the B.C. context. To address this gap, I will further refine this list of conditions using a B.C. case study. This resulting list of enabling conditions for sustainable forest management can be used as tool by other communities in B.C. to assess their capacity for community forestry.

This research contributes to the literature on community forestry in the three ways:

a) It integrates literature on community-based natural resource management and community economic development to enable broader understanding of the key elements of community forestry, a task not previously undertaken.
b) It contributes to the growing body of work on community forestry, and community-based natural resource management by confirming and refining some of the hypotheses proposed in the literature and by providing new ones.
c) It concludes with hypotheses about which conditions are necessary for sustainable community forestry in B.C., which ones are beneficial but secondary, and which ones are particularly important for ecologically sustainable resource management.

1.2 BACKGROUND

1.2.1 The problem faced by forest-dependent communities in B.C.

Forest-based communities in British Columbia are facing a time of rapid change, resulting in social and economic instability. The change is caused by globalization, and transitions in the provincial economy, the forest sector, and public attitudes and values. This has lead to conditions of uncertainty and vulnerability in many B.C. communities (British Columbia 1999, Markey and Pierce 1999). This period of change is considered by many to be a serious crisis in the forest sector, and has been characterized by mill closures and massive layoffs (Marchak et. al 1999). In the media, the crisis has largely

been blamed on the downturn in foreign markets. However, it is becoming increasingly clear that the root of the problem is planted firmly at home. In order to understand the complexity of the current situation, it is important to understand its origins.

1.2.1.1 The origins of the crisis

The Canadian Constitution grants primary responsibility for lands and resources to provincial governments. These governments oversee the management of provincial Crown Land and control its use for logging, mining, recreation, grazing and other such activities (British Columbia 1996). In most cases, the provincial governments hold the authority to delegate access and management rights to natural resources and, by and large, the rights are delegated to private firms who exploit these resources (Burda et al. 1997). This relationship is especially important for forestry in B.C. where 94% of the forested land base is provincial Crown Land (British Columbia 1996).

British Columbia developed as a province through high rates of natural resource exploitation, and has a long history of dependence on timber extraction. Historically, community stability has been equated with continuous timber harvesting (Clogg 1999a, Marchak et al. 1999). In the earlier part of this century as the timber industry was establishing itself, the prevailing economic theory dictated that by exporting timber, communities would receive the benefits of employment, income, population growth, increases in local expenditures, and a boost to the local tax base (Power 1996). This was the model used to build the economy and communities of B.C. (Markey and Pierce 1999). But contrary to the predictions of this theory, the implementation of this model resulted in community instability attributable to a number of flaws in the forest sector, described below.

CORPORATE CONCENTRATION AND SUSTAINED YIELD MANAGEMENT

The problems in the forest sector began early with the management system developed by the provincial government. Until the 1940s, there was no control over the rate of timber harvesting in B.C. forests. But in the 1940s, the negative implications of forest liquidation began to be recognized and the provincial government of B.C. began to actively manage its forest resource. Growing concern, along with the desire to promote large-scale industrial development led to the adoption of sustained yield management in B.C. (Markey and Pierce 1999).

Sustained yield management is predicated on the notion that trees should not be cut faster than they can grow. The official definition of sustained yield is: "a perpetual yield of wood of commercially usable quality from regional areas in yearly or periodic quantities of equal or increasing volume" (British Columbia 1995: section 9.1.3). An idea borrowed from agriculture, sustained yield necessitated the systematic conversion of the first growth forest of the province into even-aged managed timber crops to be harvested on periodic rotations (Marchak et al. 1999).

According to Markey and Pierce (1999), the adoption of sustained yield principles and the tenure system designed to implement them was the product of a variety of forces and objectives: economic expansion, community development and stability, the profit motive of private firms, government revenue generation and the responsible management of the forest resource. In order to facilitate the development process in B.C., the concept of sustained yield was used by policy-makers in the 1940s and 1950s to justify the transfer of cutting rights from the many small businesses that logged the province's forests to larger corporations through long-term area-based renewable leases (Clogg 1999a).

The objectives of the government's policies were overshadowed by the forest companies' drive for economic gain. As early as 1947 it was clear that there was a gap between the intent of the new forest tenure and the sustained yield policy and their implementation. C.D. Orchard, the Chief Forester at the time, commented:

> Whereas I had thought that, given the authority, we just might induce some public spirited and far sighted operator to take up a forest management license with all its attendant responsibilities, the fact turned to be that almost at once we were deluged with applications. Industry saw in an assured supply a capital gain that I had quite overlooked, and no one in government or Civil Service detected (Travers 1993, cited in Markey and Pierce 1999: 13).

The legal entrenchment of sustained yield policy in 1960 and the strengthening of the powers of the Ministry of Forests in the *Forest Act* of 1978 resulted in "an emphasis on the primacy of timber values and the pursuit of community stability through forest dependence (Hammond 1991, cited in Markey and Pierce 1999:13). The years between the 1940s and the 1970s saw a 600 percent increase in logging levels and resulting rapid expansion of the timber processing industry (Markey and Pierce 1999). An extremely powerful economic and political force, the forest industry has for decades been in a position to influence and even control public policy. Forestry has brought substantial economic benefits to the province, but not without resulting costs to rural communities and forest ecosystems.

The tenure system and the sustained yield management policy has encouraged high volume timber extraction and clear-cut logging, both of which are conducive to mechanization and automation in logging and processing. The result of mechanization and automation has been a decrease in the number of jobs per cubic metre harvested (Marchak et al. 1999). Further to this, the commodification of the B.C. forest industry has resulted in little value being added to B.C. wood.

> Despite having the highest quality, highest volume forests in Canada, the British Columbia timber industry produces 45% less value added to wood

> products than the rest of Canada. Comparisons with other timber producing countries provide a similar picture. When we compare cutting rates, employment, revenue, and value added in British Columbia with Canada and other timber manufacturing countries, the conclusion is obvious: British Columbia timber managers do less with more (both wood quality and wood volume) than any other part of Canada or any developed timber management country around the world (Hammond 1991: 81).

COMMODITY EXPORT ORIENTATION

A further challenge to the sector is the fact that the business cycle is unstable due to the export orientation of the industry and the focus on commodity markets. When markets fluctuate and demand is down, the industry is negatively affected. Competition from other nations that can produce timber faster and at lower costs creates a condition under which B.C. companies continue to be price takers, not price makers. Downturns in the industry result in job losses and damage to investor confidence. The result of the cyclical boom and bust nature of the industry is often a dependence within communities waiting for the next boom (Markey and Pierce 1999). This inhibits the development of proactive strategies that would lead to increased community diversification and self-reliance (Clapp 1998).

UNSUSTAINABLE HARVESTING RATES AND THE FALLDOWN EFFECT

The problems listed above are greatly exacerbated by the fact that forest resources in most areas of B.C. have been mismanaged. The allowable annual cut (AAC) is in many cases set higher than what is ecologically sustainable. Marchak et al. (1999) explain that even in purely economic terms, the AAC is not sustainable. Of note is the face that the AAC is based largely on social, political and economic, rather than ecological criteria (Marchak et al. 1999). According to Markey and Pierce (1999:24): "The cumulative consequences of commodity production requiring high volumes of wood has resulted in harvest levels being perpetually set above government determined sustainable levels." The Ministry of Forests reports that the current rate of cutting exceeds the Long Term

Harvest Level (LTHL) by 22% over all Timber Supply Areas (Resource Tenures and Engineering Branch, Ministry of Forests 1996, cited in B.C. Wild 1998). This level of overcut is also worsened by insufficient restocking (i.e., replanting) of harvested lands in many areas. As of 1995, 27% of harvested crown land (974, 000 ha) was understocked (Canadian Forest Service 1998). But as Marchak et al. (1999) note, like the AAC, the LTHL is not based on ecological criteria. They explain that the LTHL is a predictive measure of the level of cut that might be economically sustainable, based on estimates of the availability of mature, commercially useful second-growth timber that should replace natural forests. They go on to say that the actual ecologically sustainable level is lower than the LTHL in many areas.

Driving the mismanagement of the forest resource is the economic rationale of discounting. At the core of discounting is the fact that forest ecosystems reproduce themselves more slowly than capital (Clapp 1998; Hammond 1991). The logic follows that forestry firms will receive a higher rate of financial return by clearcutting a forest and investing the money elsewhere then by harvesting at a slower rate that is sustainable in the long term. The flaw in this logic is that discounting hides the cost of damages to ecosystems done through harvesting at too rapid a rate as well as the benefits that could be derived through other more sustainable uses of the forest (Markey and Pierce 1999).

The government's tendency toward discounting is evident in what is known as the "falldown effect". Falldown is "...the gap between the authorized logging volume and the capacity of the forests at the time of measuring to sustain that volume over the foreseeable future" (Marchak et al. 1999:27). In other words, falldown is the difference between current AAC figures and the LTHL. As mentioned above, when sustained yield management was first implemented, the strategy involved liquidating old growth forest and replacing them with second growth plantations. But the AAC set for the period of

liquidation will need to drop as logging shifts to the lower-yielding plantations . This constitutes a departure from the principles of sustained yield management.

> The current timber endowment consists largely of “old growth” trees that have a greater volume of wood at harvest than will the “second growth” trees that replace them under current management regimes. Those current timber management regimes and yield calculations are not designed to replace old growth inventories with an equal volume of wood. That means there could be a “falldown” of inventory volume. (British Columbia 1997, cited in Marchak et al 1999:27)

B.C. has now entered this period of "falldown", but the logging industry is unwilling to accept AAC reductions (Wilson 1999). Part of the reason for this is certainly that the tenure system facilitated corporate concentration and the development of a commodity dependent and capital-intensive forest products industry based on mass production. This industry now requires high volumes of timber to pay off high capital costs while remaining competitive in the market place (Clapp 1998).

CORPORATE CONCENTRATION AND THE DRIVE FOR PROFITS

With regards to forest resources, B.C.'s centralized governance system relies heavily on large corporations to generate the benefits that society has come to expect. However, the forest tenure system currently operates to maximize the values of private production and profit. Tenure arrangements are a reflection of the fact that public corporations are driven first and foremost to manage for profits and business growth. In fact, they are legally mandated to do so. The B.C. Company Act of 1979, (c.59, s.142) and the Canada Business Corporations Act of 1985, (c. C-44, s.122) require the board of directors to act in the best interest of the company. This translates to responsibly serving shareholders, an obligation that the courts have interpreted to mean managing for profits or business growth in order to increase share value (M'Gonigle 1996). As a result, the many community held values, such as stable employment and healthy local ecosystems, are not factored into the equation.

Corporate concentration, unsustainable harvesting rates and the falldown effect, dependence on commodity exports, and the boom and bust nature of the business have combined to cause devastating effects in communities that rely on the forest sector. According to Markey and Pierce (1999: 13): "Recent estimates state that upwards of 10, 000 B.C. forest workers, or about 10% of the industry's employees, were laid off for varying amounts of time during a six month period between 1997 and 1998, of which 6,000 jobs are now considered to be permanently lost (Lusch 1998, Beatty and Hamilton 1998, as cited in Markey and Pierce 1999).

The current management regime has developed based on an oversimplified view of forests, both ecologically and economically (Markey and Pierce 1999). Forests are extremely complex and management institutions must be designed to address this complexity and to manage adaptively. Large corporations may not be the most appropriate stewards of the land, and centralized government bureaucracies are challenged in their attempts to manage for this complexity because of their distance from the resource. The evidence shows that the present management of B.C.'s forests is not meeting the needs of communities, it is not protecting the integrity of forest ecosystems, nor is it ensuring the use of forest resources for the generations to come. The next section will describe a management regime that has the potential capacity to address these and other issues concerning forest sector sustainability.

1.2.2 A potential solution: Sustainable community forestry

Many critics of the current system of forest management are calling for a devolution of decision-making power to communities (Burda et al 1997; Clogg 1999; Haley 1997; Hammond 1991; M'Gonigle 1996; Mitchell-Banks 1996). The key concept behind this suggestion is the democratic maxim that those affected by a decision should participate directly in the decision-making process. However, as mentioned above, most

decisions affecting natural resources in Canada are not made by local communities but by centralized management regimes. There are a number of reasons why it is believed that community-based management could be more successful at managing forest resources. Decision-making at the local level can lead to locally appropriate decisions and improves the incentives to consider long term benefits of sustainable management (Notzke 1994). For example, stewardship of the land is believed to be more easily cultivated in local communities than in organizations that manage from afar. Burda et al (1997) explain:

> People who have lived in an area for a long time have the greatest knowledge of the local ecology, and of the long-term social and environmental impacts of their activities. Centralized management structures lack the flexibility and ability to respond to local conditions, while community-based management enables the people closest to the forest to manage, plan, regulate and enforce the use of the forests in their specific places. This creates feedback mechanisms for adapting quickly to changing conditions; locally established standards and policies are more flexible to these changes. Decisions can be made for the benefit of the community at large, and by those most affected by the decisions. (Burda et al. 1997: 89).

Gibbs and Bromley (1989) concur, stating that efficiency, equity and sustainability are frequently optimized by rural communities that are dependent on collectively managed renewable resources.

The concept of community forestry first developed in British Columbia in the 1940s when Gordon Sloan in the Royal Commission on the Forest Resources of B.C. of 1945 recommended that municipalities manage local forests. This recommendation led to the establishment of the Mission Municipal Forest. The second Sloan Commission recommended expanding this concept to involve other municipalities, but nothing came of this proposal (Burda 1999).

In the 1970s and 80s as public awareness of the need to protect forest ecosystems from the negative impacts of industrial logging practices began to grow, the idea of community forestry grew in favour somewhat. Water and soil quality, fish and wildlife

habitat, and wilderness preservation all became issues of public concern. While environmentalists were focusing their attention on preservation, a growing number of people who worked in the labour movement, with communities and with First Nations were becoming equally concerned with responsible management of the "working forest" (Pinkerton 1993). Yet another Royal Commission led in 1976 by Peter Pearse supported the expansion of community forests. He said:

> Local governments that are prepared to integrate their lands with surrounding Crown forest land is one attractive possibility. The sensitive balance between timber production, recreation, and other non-commercial forest and uses that are particularly valuable close to centres of population can in these cases be struck locally, making resource management highly responsive to local demands (in Burda 1999:45).

Since that time, a number of models have been developed that promote the concept of community forestry and in general, more ecologically sensitive, wholistic natural resource management. They call for the devolution of decision-making authority to communities and represent an alternative that balances economic, social and ecological values (see Pinkerton 1998; Tester 1992; Maki 1993; and Burda et. al 1997).

The definitions of community forestry are as numerous and varied as the communities trying to implement it. There is no blueprint, but at its core, community forestry emphasizes local control over and enjoyment of the benefits from local forest resources. These benefits are not only monetary, but are derived from the many values associated with forest ecosystems including ecological, cultural, spiritual, medicinal, recreational, and aesthetic values. Community forestry allows the values and interests of local citizens to be reflected in how decisions about forest use are made (Burda et. al 1997; Betts and Coon 1996).

Until very recently, only a few examples of community forestry existed in B.C., including those in Mission, North Cowichan, and Revelstoke. However, excepting the North Cowichan Municipal Forest, they are all constrained by the current forestry

legislation and may in the long term fall short of meeting the integrated goals of ecological, economic and social sustainability. Even so, there is a great deal that we can learn about the strengths and weaknesses of these examples.

There is a growing realization that in order for social and economic objectives to be met, healthy ecosystems must be restored and maintained (KCFA 1999, Marchak et al. 1999). As a result, a number of communities in B.C. are considering an ecosystem-based approach to community forestry. This involves planning which first determines the ecological limits to uses of a specified land area, and then, given these limits, looks at how to harvest resources while maintaining a fully functioning ecosystem (Denman Community Forest Cooperative 1998).

The Kaslo and District Community Forest is attempting to adopt this approach. In 1996, the Kaslo and District Community Forest Society (KCFS) was established to manage a 15 year, non-replaceable, volume-based Forest Licence . A Forest Licence is a conventional type of forest tenure, and like the tenures held by Mission and Revelstoke, it may not be suitable for community forestry in the long term. But the KDCFS has a larger, more wholistic vision of community forestry, a vision that reaches beyond the obligations and constraints of a Forest Licence. Their mission is to manage and operate the Community Forest Licence on behalf of the Kaslo and District Community, practicing responsible ecological stewardship of the local forest ecosystem. They aim to manage the Community Forest Licence in a fiscally accountable and economically sustainable manner while contributing to the economic viability of the area (Mulkey 1999). As will be explained in Chapter 4, the constraints of the Forest Licence are making it difficult for the KCFS to achieve these goals.

The provincial legislation that governs the KCFS and the other community forests mentioned above fits the industrial model and subjects them to production oriented

demands that set cutting rates higher than is ecologically sustainable in many areas. The North Cowichan Municipal Forest is the only community forest that is not subject to these demands because the land is owned by the municipality. Despite this, the municipal management authority has set a high Allowable Annual Cut (AAC), and so the forest serves a primarily productionist purpose to meet economic development goals (M'Gonigle 1996). Experience with community forestry in B.C. is now showing that in order for it to achieve its full potential, tenure reform must occur (Haley 1997). The next section will briefly discuss the concept of tenure, the need for its reform, and the current response of the provincial government to make the goals of community forestry attainable.

1.2.2.1 The need for forest tenure reform

Forest tenures are the contractual arrangements governments use to transfer property rights to the private sector. These rights permit the utilization of the public timber resource, and in theory should result in the highest possible benefit to society (Ross 1995). In 1994, the National Forest Round Table agreed that

> forest lands should be managed under that combination of tenure systems which balances rights with responsibilities, encourages stewardship, optimizes the sustained supply of various values from forest lands, and contributes to fair and sustainable markets, and healthy communities (Ross 1995:318).

However, there is a growing sense in B.C. that the current tenure system is not achieving these goals (KCFA 1999). It is widely recognized that the B.C. forest tenure system must be changed in a several ways (KCFA 1999). "The forest tenure system is outdated, having been overtaken by new economic and social conditions" (Pearse 1999:8). With respect to community-based management of forests, the current system presents three major obstacles:

1. Because of high AAC requirements, ecosystem-based forest management is impossible to implement in most cases.

2. The mechanisms for meaningful public participation in decision-making are weak.
3. Nearly all of the province's harvest has been allocated, thus closing the door to community-based initiatives.

As described above, the tenure system is linked to sustained yield forest management with inflated AAC levels, a management regime that frequently leads to clearcutting, and the creation of simplified forest stands that require large inputs of fertilizers and other chemical treatments (Marchak et al. 1999). Because of this, advocates of community forestry believe that the tenure system must be changed to make room for ecologically-based initiatives that maintain ecosystem health. Burda et al. (1997) indicate that since tenure holders must adhere to AAC requirements, they cannot employ forest practices which sustain ecological composition, structure and function. They state that in most cases this would undercut the AAC and community forest licencees would risk losing their licenses. It is possible that ecologically-sensitive forest practices could be used while meeting the AAC in areas where forests have not been degraded by logging. However, most forests in close proximity to rural towns have seen some logging activity and would need to be restored. It is this line of thinking that leads to the notion that the tenure system must be changed to create the space for alternative forestry practices.

Another strong argument for tenure reform is the fact that the present system does not permit meaningful public participation in decision making. As stated earlier, the concept of a participatory democracy, where citizens and resource users are involved in making decisions and are thus responsible for them, is intrinsic to community forestry.

As of 1998, in B.C. seventeen companies controlled nearly seventy percent of the provincial AAC (B.C. Ministry of Forests, Resource Tenures and Engineering Branch, January 1998, cited in Marchak et al. 1999). According to Clogg (1999b), because of this relatively homogeneous control over the forest land base by large integrated companies,

change in the direction of community-based management will require a redistribution of rights. Therefore, not only is tenure *reform* required, tenure *redistribution* is necessary as well. This raises the question of compensation. On this subject, Clogg (1999b) has found that since property rights are not protected under the Canadian Constitution, the provincial government has the legal right to legislate changes to how public lands are managed. In addition, the government has the right to legislate what level of compensation (if any) will be afforded to existing licencees if their licences are terminated. A discussion of the legal tools that could permit a redistribution of rights to forest resources and the political implications of this redistribution is beyond the scope of this paper. However, it should be noted that the legal tools exist for tenure reform and redistribution. Whether or not the political will exists is another question.

The challenge for the provincial government is to design a new community forest tenure. The legislation to permit such a tenure was passed in the B.C. legislature on July 30th, 1998 (British Columbia 1998b). Bill 34, the *Forest Statutes Amendment Act, 1998* allows for the establishment of community forest pilot agreements. The pilot agreements stem from a commitment made under the Jobs and Timber Accord to design and pilot a new community forest tenure that would "...increase the direct participation of communities and First Nations in the management of local forests and to create sustainable jobs" (British Columbia, 1998a). According to former Minister of Forests David Zirnhelt, "The legislation is the first step towards giving communities the flexibility to manage local forests for local benefits. Community forest tenure will contribute to the long-term economic stability of communities that rely on B.C.'s forests..." (British Columbia, 1998b). The new tenure is intended to:

- identify a specific area of land for a community forest;
- be long-term in duration;
- test local government and community-based legal entities that are appropriate to hold a community forest tenure;

- provide the opportunity to manage for resources beyond timber;
- base timber harvest rates on the community's management objectives rather than on provincial criteria for the allowable annual cut determination and cut control;
- initially use the current stumpage system, but test alternative fiscal arrangements which would recognize broader management rights and regimes;
- initially use a results-oriented approach to forest practices, similar to what is being developed for woodlot licenses, but also examine the need for provisions specific to the community forest tenure;
- minimize risk to communities and the province through requirements for a management plan, business plan, public involvement and reporting. (British Columbia, 1998b).

At the time of writing, seven five-year pilot agreements have been signed. According to Marchak et al. (1999), this pilot project "...is an important, though small breakthrough for forest communities wishing to control the nearby resource for their long-term benefit". This new pilot project seems to address the problems of high AAC requirements and public participation. However it does not deal with the issue of access to and/or redistribution of forest management rights in a meaningful way. This is due to the fact that pilots will only be awarded in areas where there is available timber. Since nearly all of the province's AAC has been allocated to existing licencees, this does not leave much room for new community forests. Despite this major shortcoming, the seven pilot agreements will be important testing grounds for community forestry in B.C. and will be watched with keen eyes from many sectors.

It should be noted that the incentive for the MOF to reallocate timber to additional community forest organizations is likely to grow in many of areas of the province. Until recently, the focus of harvesting in a number of Timber Supply Areas (TSAs) has been on areas that are out of view, that are inexpensive to log, and that do not comprise consumptive watersheds. The available timber in these areas is diminishing, and forest companies are having to move into the more contentious and expensive areas.

In the Kootenay Lake TSA, all three of the community forests that have been established comprise forest lands with these characteristics. Logging in consumptive watersheds, especially those that are on steep slopes, is extremely controversial in the TSA. There is also opposition to logging important viewscapes. Increasingly, forest companies and the MOF are finding it difficult to obtain public acceptance for logging in these areas. It is believed, however, that community forest organizations may be better equipped to incorporate the concerns of community members into harvesting plans and to gain public support. Given this, it is in the interest of the MOF to transfer the responsibility of logging these difficult areas to community-based organizations. However, it must be noted that the MOF may be dooming such organizations to failure if it does not to confer adequate decision-making rights.

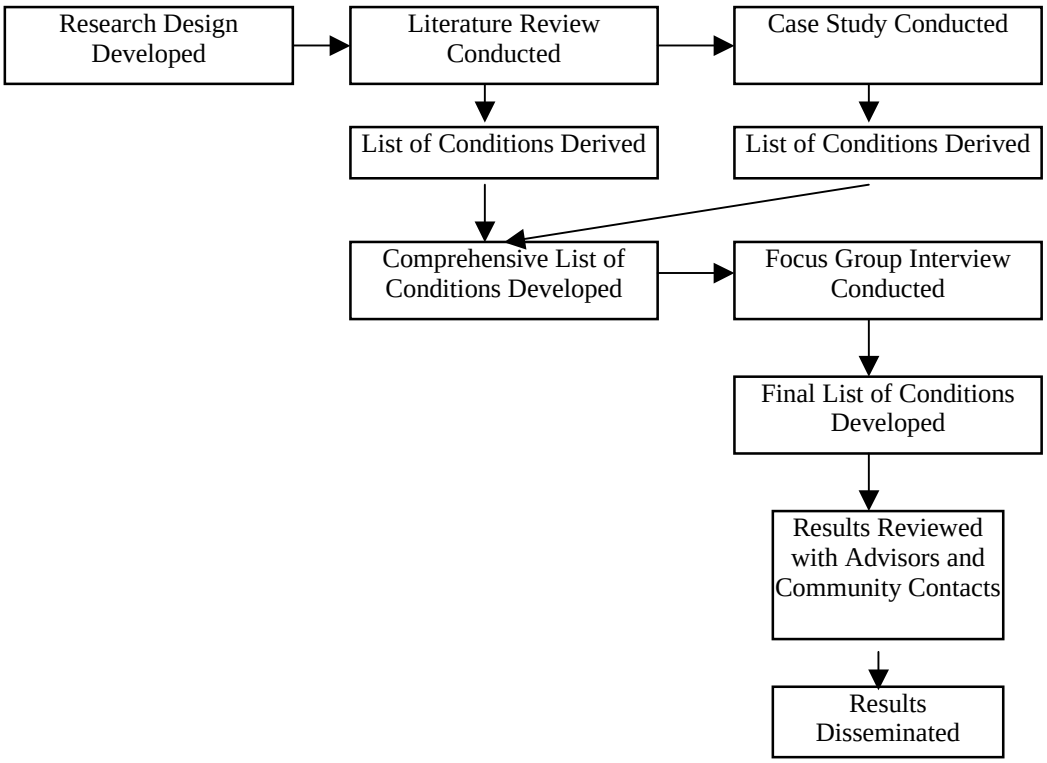
It is critical that this situation be acknowledged by the MOF, both in the case of the new pilot agreements and in the context of existing community forests in the province. The Kaslo Community Forest is not part of the Pilot Project, as it was established two years prior to the implementation of the Pilot Project. As a result, the Kaslo Community Forest provides proof of the need for flexibility in tenure arrangements. It also provides timely empirical evidence of what conditions are important for the success of sustainable community forestry that will be useful for the new pilots which are at an early stage in their development.

2. RESEARCH METHODS

2.1 OVERVIEW

As explained in the introductory chapter, the purpose of this research is to identify the conditions associated with successful sustainable community forestry as documented in the literature, and then to further refine this list of conditions with a case study to reflect the B.C. context. This chapter describes the methods used to achieve these objectives. Figure 1 shows the sequence of steps used in this project.

Figure 1. Research steps



The research design of this project included many steps. The first major task was to conduct a literature review in order to generate a set of enabling conditions for

sustainable community forestry. Subsequent to this, a case study was conducted. The conditions, or theoretical propositions about key conditions, derived from the literature review, were used to formulate the case study interview questions. The purpose of the case study was to make the list of conditions from the literature relevant to the B.C. context. Prior to conducting the case study interviews, I recognized that I might find conditions present in Kaslo that were not discussed in the literature. In response to this, I designed focused, open ended interviews that encouraged new information and permitted serendipitous findings.

The case study findings, a combination of interview results, document review and direct observation, were condensed into a second list of enabling conditions specific to Kaslo. This set of conditions was combined with those from the literature review to create a comprehensive list of conditions. The comprehensive list was then presented to a focus group interview for feedback. The focus group rated the conditions as primary or secondary. The results of this focus group interview and my analysis of the KCF, were synthesized to generate a final list of enabling conditions for sustainable community forestry in which I hypothesize which conditions are necessary, and which ones are beneficial, but secondary. The following sections describe in more detail the major components of this research design.

2.2 LITERATURE REVIEW

A review of relevant literature was conducted to develop a list of conditions that are hypothesized to permit sustainable community forestry. This included a review of the most relevant literature from three major fields: community-based natural resource management (hereafter CBNRM) , sustainable forestry, and sustainable community economic development (hereafter, CED).

References selected for the literature review were those that made explicit statements related to the enabling conditions for sustainable community forestry. However, not all of the literature included directly addresses community forestry. For example, the literature on CED discusses community economic development in general. The CBNRM literature used examines many different natural resource areas including fisheries management, irrigation systems and forestry. Although these sources do not deal specifically with community forestry, they provide important insights into successful community-based resource management and community economic development, both of which are relevant to community forestry.

Once the literature was selected, the statements that appeared to be enabling conditions for community forestry were grouped into four categories: attributes of the forest, attributes of the community, attributes of the community forest organization, and attributes of the forest tenure. The results of this exercise are presented in Chapter 3.

2.3 THE CASE STUDY

A case study approach was selected for this research. More specifically, this research utilized the instrumental case study method whereby an in depth case is studied in order to answer a specific research question (Stake 1995). The case study method can be used to provide description, test theory or to generate theory (Eisenhardt 1989). Case studies can also be used to explain the causal links in real-life situations that are too complex for survey or experimental research strategies (Yin 1994). According to Yin (1994), single case studies are appropriate where the case represents an extreme or unique case, or where the case study is a revelatory case. "This situation exists when an investigator has an opportunity to observe and analyze a phenomenon previously inaccessible to scientific investigation" (Yin 1994: 40). The Kaslo Community Forest is such a case. It is a very unique example of community forestry, and was established

recently, in 1997. At the time of writing, no other in-depth research on this case has been documented.

For the purposes of this research, the subject of the case study is the Kaslo and District Community Forest Society (KCFS). This non-profit society is made up of nine volunteer directors and very limited staff (1-2 staff persons at the time of writing). Although the nine directors are the only legal members of the organization, they represent all of the residents of Kalso and the surrounding District. Contact with the KCFS was established in January 1999. Key members of the organization were notified of my research intentions, and their approval was sought prior to the commencement of the project. A complete description of the case study is provided in Chapter 4.

2.3.1 Validity and Reliability in Case Study Research

Yin (1994) stresses the importance of ensuring the validity and reliability of case studies. The validity of a case study can be strengthened by using multiple sources of evidence, by establishing a chain of evidence in data collection, and by having the draft case study report reviewed by key informants (Yin 1994). Another aspect of case study validity is external validity. External validity addresses the problem of knowing whether the findings of a study are generalizable beyond the immediate case study.

> Critics typically state that single cases offer a poor basis for generalizing. However, such critics are implicitly contrasting the situation to survey research, in which a "sample" (if selected correctly) readily generalizes to a larger universe. This analogy to samples and universes is incorrect when dealing with case studies. This is because survey research relies on statistical generalization, whereas case studies (as with experiments) rely on analytical generalization. In analytical generalization, the investigator is striving to generalize a particular set of results to some broader theory (Yin 1994:36).

This research endeavours to do this by creating a list of propositions about key conditions based on theory (the conditions identified in the literature which are compared with the results of the case study).

For a case study to be considered reliable, it must be possible for a later investigator to follow exactly the same procedures as described by an earlier investigator and conduct the same case study. If the research strategy is documented carefully, the later investigator will arrive at the same findings and conclusions (Yin 1994). Although a degree of subjectivity is inherent in this research, it is likely that a future investigator (using the same literature and the same research questions) will derive similar conclusions.

2.3.2 Data Collection

Data for case studies can come from 6 sources:

1. documents
2. archival records
3. interviews
4. direct observation
5. participant observation
6. physical artifacts (Yin 1994: 78).

In case study research, multiple sources of evidence can become measures of the same phenomenon. This technique, known as triangulation, addresses potential problems of construct validity (Yin 1994). My research utilized data triangulation by combining a) document review, b) interviews, and c) direct observation.

A) Documents

The document review for this research consisted of

1. The KCFS "Redbook" which is a compilation of documents written prior to the granting of a Forest Licence (FL) to the KCFS. It includes: background reports on

community forestry prepared by consultants for the Planning Committee, the FL application, and the economic feasibility study;

2. The KCFS website;
3. Policy documents written since the establishment of the organization;
4. Minutes of meetings from the inception of the planning committee in 1996 to June 1999;
5. The 1998-1999 Forest Development Plan, and;
6. Newspaper articles from March 1996 to February 1999.

These documents were reviewed to gather factual information on the development of the KCF and to gain insight into the conditions that enable sustainable community forestry. The results of this investigation are presented in Chapter 4.

B) Interviews

Two types of interview were conducted: those with individuals, and one focus group interview. The interview technique used to gather information can be characterized as focused and open ended. For the interviews with individuals, I contacted everyone who was directly involved with the KCFS including past and present Board members, Planning Committee members, and the contractors involved with the FL application. I met with 15 people out of a possible 21, as well as the senior MOF official responsible for licences in the Kootenay Lake TSA.

The interviews took the form of a conversation. The interviewees were invited to offer thoughts or opinions about the process of establishing the KCFS, and the strengths and weaknesses of the organization. Each interview was guided by a basic list of questions, which first determined the interviewee's history with the KCFS, and then served to generate discussion on their opinion of:

- the factors or conditions that have been important for the development of the KCFS;
- the major obstacles to this development;
- the changes that are required for the KCF to be successful; and

- the advice they would offer other communities interested in community forestry. (See Appendix 1 for the list of interview questions.)

Interviewees were also asked about certain facts to corroborate information. The interviews were conducted during May and June of 1999. The time for each interview varied with most ranging from 1.5 to 2 hours.

The results of the interviews were compiled and incorporated into the case study chapter of this paper, which culminates with a list of enabling conditions for the KCF. The items of this list were largely generated by the interviews described above, but were also informed by the document review and my observations. This list was then combined with the list identified in the literature review of Chapter 3, and presented to a focus group in Kaslo.

Every respondent originally interviewed and all new Board members were invited to attend the focus group interview. Five individuals attended: three current Board members, one Planning Committee member, and one logging contractor. All five were among those originally interviewed. The purpose of this group interview was to review the comprehensive list and to determine which conditions are most important to the KCFS, and which ones are less important. Although it was not possible to prioritize all of the conditions, the discussion that was generated was extremely helpful in this endeavour. The outcomes of the focus group interview contributed to the results chapter of this paper. In the interest of maintaining confidentiality, the individuals interviewed are not cited in the text of this document.

There are some weaknesses associated with the interview method. It is subject to bias, poor recall and poor or inaccurate articulation of ideas. Errors could have been made in recording the comments of the respondents (Yin 1994). This is why triangulation, corroborating interview data with information from other sources, was used.

C) Direct observation

I visited Kaslo three times over the course of this research. First, I met with a few key KCFS members to discuss my research during one week in February 1999. Subsequent to this, the individual interviews were conducted over a four week period in May and June 1999. During this time I lived in the community. Finally, the focus group interview and follow-up research was conducted during a one-week period in November 1999. Although the purpose of these visits was largely to conduct interviews, a significant amount of time was spent at the KCFS office, attending Policy Committee and Board meetings. This permitted me to observe the functioning of the organization and to have many casual conversations with the staff and Board members of the KCFS. Field notes were recorded during these visits. These were used to further refine interview questions, add new ones, and contributed significantly to the analysis of results.

2.4 DATA ANALYSIS

The data collected for this case study was first analyzed on its own, prior to being compared with other cases documented in the literature. This within-case analysis permitted the unique patterns of the case to emerge (Eisenhardt 1989). Once this was completed, the results were compared with the propositions put forward in the literature.

Yin provides advice on how to analyze case study evidence. "The better case studies are the ones in which the explanations have reflected some theoretically significant propositions" (Yin 1994: 110). To analyze data, Yin advocates using an iterative process:

1. Statements or propositions are put forward
2. Findings of the case are compared
3. Propositions are revised

A potential weakness of attempting to build theory from case study research is that it may result in narrow and idiosyncratic theory (Eisenhardt 1989). This research does not attempt to produce completely new theory; it tests and refines existing ideas. According to Stake (1995), the purpose of a process involving a single case is to improve our understanding of the theoretical propositions using the case study evidence. This is accomplished by comparing the enabling conditions in Kaslo with those presented in the literature.

3. LITERATURE REVIEW

Communities across B.C. are exploring the potential of community forestry as a means to increase self-reliance. Community forestry is not a simple undertaking. Therefore, a framework that interested communities can use to assess their "readiness" for community forestry could be extremely useful now and in the future. The notion of "readiness" is linked to the concept of "community capacity" in CED. Capacity is defined as

> ...a community's ability to identify, enhance and mobilize the human potential, economic opportunity, social relationships, and ecological resources found within a community for the purpose of improved community stability (Markey and Vodden 1999:2).

It follows that a community with great capacity for community forestry is one that is able to identify, enhance, and mobilize its human, economic, social and ecological assets for the purposes of forest management. In order to do this, the first step must be to identify these assets. This chapter is an attempt to illuminate which assets are particularly important for community forestry. Assets can be viewed as conditions within a community. Certain external conditions, those beyond the control of a community are also important enablers. The list of enabling conditions below incorporates both internal and external factors. The attributes of the community and the community forest organization are predominantly internal conditions, while the attributes of the forest and of the tenure can be characterized as external, or outside the control of the community.

3.1 DESCRIPTION OF THE LITERATURE

As explained in Chapter 1, community forestry can take many different forms. For the purposes of this research, community forestry will be defined as forest management with three major goals: promoting sustainable forestry; fostering community economic

development; and enabling meaningful community participation (Anthony Usher Planning Consultant et al. 1994, Betts 1998, Cortex 1996, Matakala and Duinker 1991[1]). Insight into the conditions that foster action toward each of these goals is provided by the literature on community-based natural resource management (CBNRM), community economic development (CED), and sustainable forestry. This introductory section to the literature review briefly describes the contribution of each of these three major fields of study.

3.1.1 CBNRM

> Community-based natural resource management programs are based on the premises that local populations have a greater interest in the sustainable use of resources than does the state or distant corporate managers; that local communities are more cognizant of the intricacies of local ecological processes and practices; and that they are more able to effectively manage those resources through local or "traditional" forms of access (Brosius et al. 1998:158).

CBNRM has been operating in other countries with success for generations. A growing body of research is examining community-based resources management around the world and is finding that under certain conditions, these regimes tend to achieve sustainable use patterns (Pinkerton 1993). These management systems fly in the face of theories such as the tragedy of the commons and the predator/prey models that are frequently used by state-level managers and decision-makers. These theories assume that groups of resource users, if left unregulated by a central government, will work to maximize individual short-term gain at the expense of ecological long-term sustainability (Berkes and Farvar 1989).

On the contrary, research is finding that in many cases communities that are able to play a meaningful role in management have developed ways to prevent over-exploitation of local resources. Community-based arrangements have shown promise in

[1] Most authors, including but not limited to those above, describe community forestry in this manner.

improving the management of forests, fisheries, wildlife, water and other common pool resources in an ecologically and economically sustainable manner (Berkes and Farvar 1989, Gibbs and Bromley, 1989, Pinkerton 1993, Pinkerton and Weinstein1995).

CBNRM has been most vigorously promoted in developing countries since it favours the long-term and grassroots institutions that are critical to sustainable development (Berkes and Farvar 1989). Interestingly, as Berkes and Farvar (1989) explain:

> For decades, many developing countries have been ignoring the time-tested resource-use practices of their own people, trying instead to emulate the developed countries, with their imprudence and excess in resource use. Meanwhile, scholars and resource managers in industrialized countries have been seeking new paradigms of resource use and developing a keen interest in traditional resource-use wisdom and ecological knowledge as found in some developing areas of the world (Berkes and Farvar 1989: 20).

In Canada, it is not only scholars and resource managers that are looking for alternatives. The current state of resource-dependent communities is motivating many community leaders to look for new options such as community forestry. CBNRM systems are usually based on cooperation instead of competition and focus on the collective sharing of a resource rather than the individual attempting to maximize yield without reference to the community (Jacobs 1989). Community-based systems serve a number of functions including: livelihood security, access equity and conflict resolution, resource conservation, and ecological sustainability (Berkes and Farvar 1989).

Empirical research in the field of common property resources (CPR) has shown that there is a critical link between ecological, economic, and social sustainability, and property rights. The notion of property rights is then of great importance to the study and practice of community forestry. Most debates in Canada center around whether the government or the private sector can do a better job of managing natural resources.

Property rights are narrowly conceived as being either private rights or government rights. But CPR theory goes beyond these two categories, and beyond the concept of ownership, to encompass all of the bundles of rights that are relevant to and govern the management of natural resources.

Schlager and Ostrom (1992) divide property rights into three main categories: Operational rights; collective choice rights; and constitutional rights. 1) Operational rights include access rights and withdrawal rights, which translate into the user's right to harvest from the resource, and to retain benefits from that harvest. 2) Collective choice rights include management rights, the right to exclude others, as well as alienation rights (i.e., the right to sell). 3) A constitutional right is the authority to decide who qualifies to make decisions regarding the granting of operational and collective choice rights.

The notion of incentives derived from these rights is one of the most compelling arguments for community-based management of resources. Research in many natural resource sectors has indicated that the more complete the set of rights held by an individual or group, the more likely they are to develop rules that define how they exercise their rights of withdrawal (i.e., harvesting) (Schlager and Ostrom 1992). The incentives to develop these rules, or management regimes, are stronger when resource users are faced with the long term consequences of their decisions.[2]

In the long term, it is in the interest of resource users to manage the resource in an ecologically sustainable manner if they can enjoy the benefits of such management. Thus, the concept of incentives derived from rights leads to the notion of stewardship. Stewardship is the core of CBNRM. Stewardship can be defined as "...the responsibility

[2] It is important to note, however, that ownership, or the right of alienation (the status which involves the complete set of rights) does not guarantee that a resource will be managed and used sustainably. If an owner's discount rate is high, that is, if they value short-term gains more than expected future gains, then they may severely degrade a resource through over exploitation (Schlager and Ostrom 1992).

of humans toward non-human life and the Earth's life support system" (Walter 1994: 68).

Pinkerton and Weinstein (1995) explain the significance of stewardship in CBNRM:

> Management systems based on stewardship focus as much on the DUTY of...communities to manage the resource for future generations as they focus on the RIGHT of communities to manage. Rights and duties are two faces of the same coin, but the difference is essential. A right is oriented toward the benefit of the current users; a duty is oriented toward future generations (Pinkerton and Weinstein 1995:182).

In order to understand the various rights and duties associated with CBNRM, Pinkerton and Weinstein (1995) have divided them into to seven general categories:

1. Policy making and evaluation
2. Ensuring the productive capacity of the resource
3. Regulating access
4. Regulating harvest
5. Coordinating potential conflicting uses
6. Enforcing and implementing rules
7. Maximizing benefits

These seven categories will be used to evaluate the management rights held by the KCFS and will be discussed in more detail in Chapter 4.

3.1.2 Sustainable CED

The study of Community Economic Development (CED) is interdisciplinary and relies strongly on the fields of economics and geography for its theoretical foundations. The practice of CED is viewed as an alternative to conventional economic development. CED is defined as a process by which communities can initiate and generate their own solutions to their common economic problems and thereby build long-term community capacity and foster the integration of economic, social and environmental objectives (McRobie and Ross 1987:1)

CED is:

> ...a community-based and community-directed process that explicitly combines social and economic development and is directed towards fostering the economic, social, ecological and cultural well-being of communities and regions...CED has emerged as an alternative to conventional approaches to economic development. It is founded on the belief that problems facing communities - unemployment, poverty, job loss, environmental degradation, economic instability, and loss of community control - need to be addressed in a holistic and participatory way. (CEDC 1998).

Communities that engage in CED may implement the concept as a broad development strategy, or they may design and implement specific CED projects. Community loan funds, workers cooperatives, cultural centres and community gardens are examples of such projects.

According to the CED Centre at Simon Fraser University, the following principles underlie CED:

- CED is an evolving, on-going process.
- Equity: CED is based on the principle of fairness and the notion that community members must have equitable access to community decision-making processes, resources and the benefits of CED projects in order for community well-being to be attained.
- Participation: CED encourages the active participation of all members of the community in the planning, decision-making and benefits of CED initiatives, and works to remove the barriers that limit the participation of marginalized citizens.
- Community-building: CED seeks to build a sense of community by fostering relationships of acceptance, understanding, and mutual respect.
- Cooperation and collaboration: CED recognizes that there are important linkages and connections between communities and regions, and that many problems cannot be addressed in isolation. CED therefore encourages relationships based on cooperation and collaboration.
- Self-reliance and community control: CED builds on local strengths, creativity and resource, and actively seeks to decrease dependency on, and vulnerability to, economic interests outside the community and region. Furthermore, CED supports decentralized, non-hierarchical decision-making processes that strengthen the autonomy of the individual, the community and the region.

- Integration: CED recognizes that the healthy development of communities requires a holistic approach that addresses the social, economic, cultural, and ecological dimensions of community well-being.
- Interdependence: CED recognizes that the local community exists within the context of a larger complex web of relationships and that its decisions can have an impact far beyond its own boundaries. Therefore, CED embraces strategies that aim to benefit the local and larger community.
- Living within ecological limits: CED recognizes that the social, cultural, and economic well-being of the community depends on healthy local, regional and global ecosystems, and that there are real ecological limits to human economic activities. Therefore, CED encourages processes, structures and initiatives that respect these ecological limits and supports work that is sustaining, regenerating and nurturing of both the community and the earth.
- Capacity Building: CED contributes to self-reliance by encouraging the acquisition of relevant skills and the development of supportive structures and institutions.
- Diversity: CED contributes to self-reliance by encouraging economic activities that are diverse and appropriate to the expressed needs within the community and region. As a result, CED looks different in each community.
- Appropriate indicators: CED monitors and evaluates its progress through community-derived and appropriate economic, social, cultural and ecological indicators, rather than through conventional measures and standards (CEDC 1998).

Work by Markey and Vodden (1999) suggests numerous possible conditions for sustainable CED that incorporate these principles, as will be demonstrated later in this chapter.

Another significant contribution to my research from the field of CED is the notion of community capacity. Community stability has long been one of the goals of natural resource-based towns in Canada. But as Pierce (in Utzig 1999:6) explains, "...the concept of community stability has shifted from being measured only in jobs and income, to be defined in terms of the ability of a community to cope with external change and their level of control over planning and resources". The Aspen Institute (1996) defines community capacity as the combined influence of a community's resources, skills and commitment that can be used to build on community strengths and address community problems and opportunities. As will be described in Chapter 4, in the case of a

community like Kaslo, one such opportunity may be community forestry. Many of the internal conditions listed in this chapter can be viewed as a way to assess a community's capacity for community forest efforts.

Capacity assessment is a critical step in the CED process[3]. Ameyaw and Markey (1999:1) explain the rationale for the process:

> By making development decisions that are based upon a clear development process, there is a greater likelihood that projects will be successful and contribute to the desired future of the community, thereby achieving greater levels of self-reliance. Projects and funding that are pursued in a less informed and reactive manner will face more barriers to success, as community support may be lacking or initiatives may not represent an appropriate fit with the community, financially, ecologically, or in terms of human resources. If a community is unable to generate viable development initiatives, external forces will have a larger role in determining the future of the community, creating or repeating conditions of dependency.

Most cases of community forestry in Canada are in the early phases of development. Given this, the process of capacity assessment is a useful tool in the planning and development of these initiatives.

3.1.3 Sustainable Forestry[4]

The third major goal of community forestry is the promotion of sustainable forestry (Anthony Usher Planning Consultant et al. 1994, Betts 1998, Cortex 1996,

[3] Ameyaw and Markey (1999) propose an iterative, 6 step CED process:1. Initiate CED Plan 2. Data Collection 3. Analyze and Interpret Data 4. Develop CED plan 5.CED plan implementation 6. Monitor and revise CED plan.

[4] Dunster and Dunster (1996:137) define forestry as "1. A profession embracing the science, business and art of creating, maintaining and managing forested landscapes and their many component parts to produce consumptive and/or nonconsumptive outputs... 2. A loosely used term to describe timber management, and associated activities such as silviculture and forest protection". They define forest management as "The practice of applying scientific, economic, philosophical, and social principles to the administration, utilization, and conservation of all aspects of forested landscapes to meet specified goals and objectives, while maintaining the productivity of the forest". Given this, forest management may be the best term to describe community forestry operations. However, in this paper, forestry and forest management are used interchangeably, encompassing the second definition of forestry and the definition of forest management.

Matakala and Duinker 1991). The sustainable use of natural resources is best described by the concept of living off the interest of natural capital.

> Natural capital refers to any stock of natural assets that yields a flow of valuable goods and services into the future. For example, a forest, a fish stock, or an aquifer can provide a harvest or flow that is potentially sustainable year after year. The forest or fish stock is natural capital and sustainable harvest is "natural income" (or Interest) (Roseland 1998:5).

According to this notion, harvest rates must be set to exploit the interest and not the capital of a resource. If sustainable harvest rates are to be maintained, any increase above this level will either reduce the potential economic benefits or increase the restoration costs of resource related economic activities in the future (Roseland 1998).

Hammond's (1997) "Standards for Ecologically Responsible Forest Use" are centered around one primary standard for ecologically responsible timber management:

> All plans and activities must protect, maintain, and restore (where necessary) a fully functioning forest ecosystem at all temporal and spatial scales. Forest composition, structures, and functioning must be maintained, from the largest landscape to the smallest forest community, in both short and long terms. (Hammond 1997:205)

Of the three main goals of community forestry, when the promotion of sustainable forestry is given priority, the following principles are proposed:

- Ecological limits define appropriate limits for human activities;
- Ecological boundaries define the relevant management unit;
- Cutting levels are primarily determined by ecosystem goals rather than by economic factors;
- Alternatives are required to clearcutting and other industrial forestry practices;
- Value-added is sought in all manufacturing activities;
- Informed community-based control and devolution of management to local bodies is necessary, with decision-making embodying ecological and democratic principles (Burda et al. 1997:8).

The standards of ecosystem-based community forestry are high. Given the history of development and forestry in B.C., it is difficult for many communities to break the mold and seek out this alternative.

While the literature in this area provides helpful information about what sustainable community forestry is, it says little about the characteristics of communities that are likely to engage in sustainable management. One goal of this research is to attempt to isolate the enabling conditions that are likely to lead to a community adopting principles like those above.

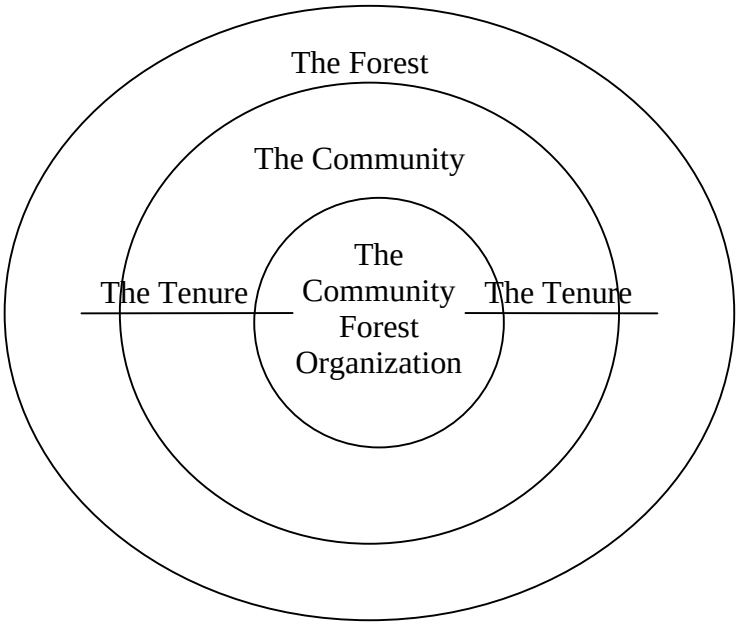
3.2 CATEGORIES FOR ENABLING CONDITIONS

The list of conditions discussed below was assembled based on the wholistic model of community forestry, whereby community participation, CED, and sustainable forestry are sought. At this early developmental stage of community forestry in B.C., perhaps the most crucial ingredient of successful community forestry is the ability of communities to realistically determine the scope and scale of a potential community forest based on local circumstances. The following attributes of successful community forestry initiatives can help communities determine these local circumstances by using the attributes to evaluate their own capacity.

The conditions that enable a sustainable community forest initiative have been divided into four categories: attributes of the forest, attributes of the community, attributes of the community forest organization, and attributes of the forest tenure. In many ways this is an artificial categorization, as all of the groups and factors are interrelated. Despite this, the conditions have been grouped to facilitate the communication of these concepts. Attributes of the forest refer to characteristics of the forest resource itself (not the interaction of people with the forest). Attributes of the community refer to assets of the community as a whole, while the attributes of the

community forest organization deal more specifically with the organization managing the community forest. Finally, attributes of the tenure describe the legal contract between the B.C. Ministry of Forests, as well as more informal aspects of that arrangement.[5] Figure 2 shows how the categories are nested one within the other. The forest tenure is the element that determines the relationship between the community forest organization and the forest.

Figure 2. Nested categories of enabling conditions



3.2.1 Attributes Of The Forest

3.2.1.1 Ecosystem health

In general, a healthy forest ecosystem is an asset to any community. A healthy forest is one that is fully functioning. According to Drengson and Taylor (1997:304), a fully functioning forest ecosystem is one "...where biological diversity is maintained at all

[5] The discussion of enabling conditions below draws heavily from Markey and Vodden (1999). Their work, a literature review of success factors for CED, is cited frequently in an effort to avoid duplication of research.

levels (genetic, species, ecological community, and landscape levels) and at all temporal and spatial scales" They explain, "Maintaining biological diversity does not imply an absence of change; a fully functioning forest ecosystem includes natural disturbances and may include carefully designed human-induced changes". Site productivity (Matakala and Duinker 1991) is an indicator of forest health, and an important condition for community forests that are focused on extraction of timber and non-timber products. Ostrom (1999:3) presents a slightly different perspective, asserting that "feasible improvement" is an important attribute in the development of collectively managed forest resources. This means that "the forest is not at a point of deterioration such that it is useless to organize..." for the purposes of management. In order to assess the health or productivity of a forest ecosystem, there must be reliable and valid information about the condition of the forest ecosystem (Markey and Vodden 1999, Ostrom 1999).

Summary of Conditions in the Literature:

- A generally healthy productive forest ecosystem (Markey and Vodden 1999, Matakala and Duinker 1991, Ostrom 1999)
- Reliable, up to date information about the state of the forest ecosystem (Markey and Vodden 1999, Ostrom 1999).

3.2.1.2 Availability of consumptive and non-consumptive natural resources for human use

The availability of natural resources for commercial and subsistence purposes depends on forest ecosystem health. However, availability of resources is given separate attention here because of its importance to the planning of any community forest initiative, especially those that seek to generate revenue from the forest. This category includes natural resources extracted by humans for commercial and subsistence uses, and also includes what are called ecologically-based amenities. These include factors such as visual aesthetics, recreational and educational opportunities and other benefits derived from the forest that improve the overall quality of life of people living in and around it

(Markey and Vodden 1999). A related benefit is the power these amenities have to attract tourism dollars, which create expanded opportunities for economic development.

The availability of consumptive and non-consumptive resources will shape the type of community forest that a given community develops. Drescher (1997a) asserts that any sustainable forestry operation must begin by determining the productive capacity of the forest. Only then should the type and scale of forestry operation be selected. The reverse often occurs whereby managers set quotas for extraction before understanding what the forest can support. There are ecological limits to what can be extracted from a forest while maintaining the capacity of that forest to regenerate. An assessment of this carrying capacity depends on having reliable, up to date information about the state of the forest ecosystem (Ostrom 1999), as mentioned in the previous section.

Ideally, a community forest should have an inherently high potential for providing a variety of commercial and non-commercial resources so that a diversity of opportunities and benefits can be considered Cortex (1996). This diversity may be a very important factor in generating enthusiasm for the community forest and in fostering the participation of people with diverse interests. Enthusiasm and diverse participation are both very important for community forestry as will be discussed later in this chapter.

Matakala and Duinker (1991) state that a balanced distribution of all age classes across the forest area, and sufficiently high volumes of merchantable timber are key variables. This is true for forests with a timber extraction orientation. Markey and Vodden (1999) and Ostrom (1999) add that the availability of forest products both timber and non-timber and the sustainable use of these are particularly essential to rural communities who derive a significant portion of their employment and income from natural resources.

Not to be forgotten in the discussion of available natural resources is the related concept, mentioned above, of ecologically-based amenities. These can be seen as non-commercial resources. Power (1996:41) explains that "Amenities, in economic terms, refer to local non-transportable goods or services. These include a broad range of natural, cultural, institutional, commercial, and economic features". *Ecologically-based* amenity values refer to elements such visual aesthetics, recreational opportunities and the overall quality of life stemming from the integrity of the natural environment surrounding and within a community. These amenities have economic value because they attract and help to retain workers, retirees and those seeking recreational experiences, thus creating opportunities for a diversity of community-based economic activity (Markey and Vodden 1999). Betts appears to support this proposition with his suggestion that forests that are diverse in species and land forms are the best choices for community forests. Diverse forests lead to more potential opportunities in education, recreation and tourism.

Summary of Conditions in the Literature:

- A forest that is diverse in species, landforms and age classes, and has high potential for providing a diversity of benefits (Betts 1998, Cortex 1996, Markey and Vodden 1999, Matakala and Duinker 1991).
- Adequate stock of merchantable timber in a balanced age class distribution to sustain the community forest over the long term (Matakala and Duinker 1991).
- Reliable and up to date information about the availability of natural resources (Markey and Vodden 1999, Ostrom 1999).

3.2.1.3 Spatial Scale of the management unit

The spatial scale required for a community forest depends on the goals of the initiative itself, and quite simply, the land that is available for community management. In economic terms, the size of land base is likely to be a major component determining the revenue generating capacity of a community forest. However, forest productivity (m3/ha/yr) is clearly linked to the economic potential of a forest (Allan and Frank 1994). The more productive a forest, the smaller the land base required.

Through their work in Northern Ontario, Duinker et al. (1994) suggest that community forestry is best suited to areas in the ten-thousands of hectares range. They argue that this is large enough to support a successful timber business, but not so large that infrastructure establishment would be difficult for communities with small budgetary and operational resources.

There is, however, some disagreement in the literature regarding the appropriate spatial scale of community forests. Pinkerton (1998) explains that in order to effectively manage in an ecologically sound manner, planning at the landscape scale is important. But Betts (1998) says that as the land base increases in size, it becomes less likely that community members will consider the region to be "theirs", and attach a sense of stewardship to the area. The possibilities of monitoring by community members may also be diminished. Some community forestry theorists propose that the concept should be implemented with consideration for ecological boundaries such as ecoregions or watersheds (Village of Hazelton 1991, Hammond 1991). However, such areas may vary tremendously in scale. Even so, they might serve as a useful basis for setting community forestry boundaries.

The question of landscape-level management issues has resulted in criticism of the community forest model. If large forest licences are fragmented into smaller community-based licences, then it will become more difficult to manage for landscape-level ecological process such as wildlife migration, fire, and water quality. Betts (1998) suggests two possible solutions to this problem. First, if provincial government representatives are appointed to community forest management institutions, they could assist in the planning of these transboundary issues. Second, that a committee with representatives from each community forest could be created to address landscape-level planning. Other scholars such as Ostrom (1992) advocate the development of multiple layers of nested enterprises, characterized by different scales of organization and

management, to solve this problem. In effect, B.C.'s forests are already managed in this fashion except that local and regional management organizations are unable to participate meaningfully in each level of decision-making.

It is evident that having clearly defined boundaries is critical (Ostrom 1992, 1999). The delineation of boundaries has important implications for both effective resource management and the incentives that lead to ecologically sustainable forest management. However, the setting of boundaries is not likely to be a simple exercise in some cases. Communities that are in close proximity to each other but that want to manage distinct forests will have to come to agreement on the boundaries of their management areas. A regional management board structure may be required in these cases (Fulton 1998).

Summary of Conditions in the Literature:

- Area large enough to conduct landscape planning (Pinkerton 1998) and to support a successful timber business (Cortex 1996).
- Area small enough that users can develop accurate knowledge of external boundaries and micro-environments (Ostrom 1999).
- Clearly defined boundaries (Ostrom 1992).

Table 1. Summary of Conditions for Sustainable Community Forestry Related to Attributes of the Forest as Identified in the Literature[6]

- A generally healthy productive forest ecosystem (Markey and Vodden 1999, Matakala and Duinker 1991, Ostrom 1999)
- Reliable, up to date information about the state of the forest ecosystem (Markey and Vodden 1999, Ostrom 1999).
- A forest that is diverse in species, landforms and age classes, and has high potential for providing a diversity of benefits (Betts 1998, Cortex 1996, Markey and Vodden 1999, Matakala and Duinker 1991)
- Adequate stock of merchantable timber in a balanced age class distribution to sustain the community forest over the long term (Matakala and Duinker 1991).
- Reliable and up to date information about the availability of natural resources (Markey and Vodden 1999, Ostrom 1999).
- Area large enough to conduct landscape planning (Pinkerton 1998) and to support a successful timber business (Cortex 1996).
- Area small enough that users can develop accurate knowledge of external boundaries and micro-environments (Ostrom 1999).

[6] For a complete list of statements found in the literature for each category, see Appendix 2.

- Clearly defined boundaries (Ostrom 1992).

3.2.2 Attributes Of The Community

This section identifies the important characteristics of a community undertaking a community forest initiative. The factors highlighted here relate to the community as a whole and describe the conditions that create fertile ground for community forestry. The section includes human conditions: the attributes of individuals; social conditions: the collective characteristics of a community; and economic conditions.

3.2.2.1 Skills and knowledge

Several authors mention the importance of adequate skills and knowledge related to community forestry (Markey and Vodden 1999, Betts 1998, Matakala and Duinker 1991, Vodden 1999). Markey and Vodden (1999) propose that for a CED initiative to have a real impact on the health of a community, it must be designed to fit the existing skill levels present in the community. If the demands of the strategy in questions exceed the capacity of the community, then external assistance will be required. As Pinkerton (1998) explains, to avoid this problem, the development of skills and knowledge can be an integral part of a community-based initiative. Research in CED has found that healthy communities display a commitment to learning and continuing education. This "...indicates a willingness to adopt new information, ideas and perspectives. This contributes to the ability of individuals to adapt to changing circumstances" (Markey and Vodden1999:9).

According to Matakala and Duinker (1991), a forestry orientation of the labour force is an important determinant of success potential in community forestry as this indicates the prevalence of forestry skills in the labour force with little or no training need. They state "...a community should have a tradition of forestry and the necessary

skills developed by that tradition" (Matakala and Duinker 1991:40). These authors go on to explain that:

> The presence of established institutions to provide both technical services (knowledge) and operational skills is vital to the success of community forestry projects. For instance, technical knowledge pertaining to forestry, fishery, wildlife, and tourism are important determinants of success potential in community forest ventures

Technical support from financial institutions is also required (Matakala and Duinker 1991).

Furthermore, Betts (1998) describes the existence of local ecological knowledge as beneficial. Such knowledge might include a locally assembled data base characterizing significant landscape features, or might entail a well established working knowledge of the local area held by naturalists, hunters, or indigenous people.

Summary of Conditions in the Literature:

- The existence of local forest knowledge (Betts 1998).
- Available local technical knowledge and skills (Betts 1998, Matakala and Duinker 1991, Vodden 1999).
- A commitment to education and training (Markey and Vodden 1999, Pinkerton 1998).

3.2.2.2 Leadership

Literature from several disciplines indicates that leadership is absolutely key to community-based initiatives (Markey and Vodden 1999, Cortex 1996, Pinkerton 1998, Ostrom 1999). "Clear and appropriate leadership is an especially critical and challenging human resources requirement." (Markeyand Vodden 1999: 9). What is required is someone with the will and knowledge to make community forestry happen. In CED, this person is often referred to as a "sparkplug". It is often the case that more than one leader is required and leadership is frequently a collective endeavour. Yet in many communities, a small group of dedicated people is not readily identifiable or even

present. Rural communities face limitations in the area of leadership that urban communities do not (Markey and Vodden 1999). There may be fewer potential leaders in communities with smaller populations. There is a need, then, to foster leadership skills in a community on an ongoing basis to solve this problem, and also to address the issue of leadership burnout.

According to Markey and Vodden (1999), a range of leadership skills may be required for effective CED. These include: the ability to take risks; to be innovative; to be transparent in decision-making and to be accountable for decisions; to be responsive to community needs; to be sensitive in cross-cultural situations and to be a good facilitator; to motivate and inspire supporters; and to ensure that programs last over the long term. Pinkerton (1998:378) explains how "leaders can be effective when they are perceived as being motivated by more than narrow self-interest".

Summary of Conditions in the Literature:

- A dynamic leader or "sparkplug" (often an elected official, e.g., the mayor) and /or a core group of committed individuals who are motivated and, together, have the necessary skills, knowledge and community acceptance to make a community forest happen (Cortex 1996, Markey and Vodden 1999, Ostrom 1999, Pinkerton 1998, Vodden 1999).
- Commitment to fostering leadership skills on an ongoing basis (Markey and Vodden 1999).

3.2.2.3 Labour force

Some authors explain the importance of having a healthy labour force and the role that demographics play in community development. Matakala and Duinker (1991:40) say that

> A community well endowed with young and middle-aged adults can ensure a sustained labour pool and continuity of community forestry programs, as well as facilitate acceptance of community forestry... The assumption is that the higher the number of employable people in a community, the greater the chance that the labour required for community forestry can be found locally.

In their discussion about labour in communities, Markey and Vodden (1999) add that individuals should be healthy. Social and physical health problems, if left unaddressed in a community, can prevent the progress of community development efforts.

Summary of Conditions in the Literature:

- An available, healthy pool of human resources (Markey and Vodden 1999, Matakala and Duinker 1991).

3.2.2.4 Entrepreneurship

Community forestry may require creativity and the risk taking spirit of entrepreneurship. Markey and Vodden (1999:12) report that

> A community rich with entrepreneurial spirit is more likely to have ideas and people willing to work towards putting them into place. Community initiatives and small business development for economic diversification requires risk taking, innovation, and management skills to ensure viability .

Betts (1998) relates entrepreneurial spirit more specifically to the business aspects of community forestry, saying that there should be a desire within the community to diversify forest product businesses, both consumptive and non-consumptive. Entrepreneurship can be a step towards greater self-reliance, an important goal of CED as identified by Vodden (1999).

Summary of Conditions in the Literature:

- High level of local entrepreneurship and will to become more self-reliant (Betts 1998, Markey and Vodden 1999, Matakala and Duinker 1991, Voden 1999).

3.2.2.5 Place orientation

Pinkerton and Weinstein (1995) discovered that communities which successfully manage resources are highly identified with their fishing place. This identification with place creates incentives for long term stewardship of the resource(s) in question. Power

(1996) explains the importance of environmental quality in generating a sense of place among community members. He says:

> A community won't show much vitality, economic or social, if no one wants to live there....Commitment to place is important to local economic development, and thus the qualities that instill commitment have economic importance in addition to whatever social, biological, or cultural importance they have (Power 1996: 238).

This is expressed by Power (1996) and Markey and Vodden (1999) through the notion of amenity values, as discussed in section 3.2.1.2.

Summary of Conditions in the Literature:

- Highly identified with local forest ecosystems (Betts 1998, Pinkerton and Weinstein 1995).

3.2.2.6 Community enthusiasm and motivation for community forestry

Community enthusiasm for the concept of community forestry and its benefits is said to be critical. According to Anthony Usher Planning Consultant et al. (1994), community forestry may succeed in one community and fail in another simply because of the inspiration and commitment of a small group of people in the first community. This factor calls for a tenure system that does not impose the community forest model, but whereby communities can 'opt in' to community forest management if they possess the requisite leadership, resources and desire (Betts 1998, Burda et al 1997).

Enthusiasm may be the least quantifiable of all conditions for community forestry but it is probably one of the most important (Betts 1998, Matakala and Duinker 1991). This shared enthusiasm should be demonstrated through broad-based public participation and support. Enthusiasm implies the existence of a positive impetus. However, action may also be motivated by the recognition of a crisis or major concern (Pinkerton 1998, Vodden1999). Matakala and Duinker (1991) say that community forestry is more likely to succeed where there is recognition in the community that present forestry is problematic

and where there is a willingness within the community to adopt new types of forestry. This shared concern regarding forestry can lead to community agreement on the expectations and objectives for a community forest (Cortex 1996).

Summary of Conditions in the Literature:

- Community enthusiasm for forestry in general and community forestry in particular (Betts 1998, Matakala and Duinker 1991).
- Shared concern regarding the state of forestry (Vodden1999).
- Agreement on expectations and objectives for a community forest (Cortex 1996).
- Broad-based public participation and support (Markey and Vodden 1999).

3.2.2.7 Sense of community

Literature on CED indicates that having a strong "sense of community" leads to a number of positive outcomes. “Sense of community is a collective awareness of what makes the community unique. It is a sense and celebration of shared history, experiences, belonging and identity” (Stacey and Needham 1993, cited in Vodden 1999). Selznick (1996:197) adds that “The bonds of community are strongest when they are fashioned from strands of shared history and culture” This relates to the criteria of positive public attitude identified by Young and Charland (1992) and Flora and Flora (1996) also refer to it as community solidarity.

A positive sense of community leads to things such as civic engagement and a commitment to place, both of which are important for community forestry. With a strong sense of community, it is more likely that the long-term impacts of decisions will be considered, and that there will be an increased willingness of local people to work through hard times. The civic engagement that results from a sense of community comes from the willingness of community members to volunteer their time in community development activities (Markey and Vodden 1999). Putnam et al. (1993) discovered that in Italy, communities with a significant social capital evidence by a cooperative spirit and

strong levels of trust and loyalty, were actually more economically prosperous than those that lacked these qualities. In the former, the norms of everyday life encourage citizens to be involved in public issues and to have concern for fellow citizens. Putman found these norms to be expressed in a web of local organizations and associations. An active, involved citizenry may be critical for community forestry, as a large investment of volunteer energy and time is often required.

Related to civic engagement, is an important "success factor" identified by Markey and Vodden (1999): the availability of surplus time that individuals and households can contribute to community activities beyond the demands of a subsistence livelihood. The factors that contribute to the presence or absence of surplus time include income versus cost of living and personal health, and are beyond the scope of this research. It is sufficient to say that the ability of community members to volunteer their time is an asset to community forest initiatives.

Summary of Conditions in the Literature:

- Sense of community evidenced by a high level of civic engagement (Markey and Vodden 1999, Vodden 1999).

3.2.2.8 Economic health

Markey and Vodden (1999) state that the "economic health" of a community is an important success factor for CED. They describe a community that is economically healthy as one that is diverse, having a broad range of businesses, both in terms of size and sector. This diversity leads to a more adaptable local economy. Local business resiliency is an important component of economic health. It is largely based on an understanding of the markets businesses serve, and local trade networks.

Local control of businesses is another component of economic health. Local control over a diverse economy creates prime conditions for economic stability and minimal dependency. “Owners that have greater ties within the community and therefore

a greater stake in community well-being encounter a broader range of social and economic pressures associated with their actions and business decisions, summarized by accountability to and responsibility for the community"(Gill and Reed 1997, Halseth 1998, as cited in Markey and Vodden 1999:25). Vodden (1999) also proposes that an active informal economy is key to economic health. This includes unpaid, personal, voluntary and household activity.

Summary of Conditions in the Literature:

- Healthy local economy (Markey and Vodden 1999).

3.2.2.9 Dependence on the resource

When residents of communities do not depend on the forest for income or other important values such as water use and recreation, the incentives to engage in community-based management are weak. When residents are dependent, then they become highly vulnerable to unsustainable use (Pinkerton and Weinstein 1995), this vulnerability is a strong incentive for sustainable resource management

Summary of Conditions in the Literature:

- Members of the community depend on the forest for livelihood or other variables of importance to them (Ostrom 1999, Pinkerton and Weinstein 1995).

3.2.2.10 Existing markets and customers

As part of the economic resources in a community, markets for both timber and non-timber resources are a determinant of success potential in community forest programs (Matakala and Duinker 1991). "For instance, timber markets for lumber, pulpwood and fuel wood should be apparent if continued production of these products is to be justified.... existing and potential markets for non-timber resources (such as for sport fishing, commercial fishing, commercial trapping, skiing and canoeing) should also be determined. The greater the existing markets and the potential for both markets and

customers, the greater the chance for community forestry to succeed" (Matakala and Duinker 1991:40).

Summary of Conditions in the Literature:

- Existence of and potential for markets and customers (Matakala and Duinker 1991).

3.2.2.11 Amenities

Amenities improve the local economy, make the community more attractive to investment and draw human resources (Markey and Vodden 1999, Matakala and Duinker 1991). Amenities are local non-transportable goods or services which contribute to the pleasant characteristics of a place and satisfy both psychological and physical needs (Power 1996). They include cultural and service-based amenities such as healthcare and community groups, as well as infrastructure including transportation routes. In relation to infrastructure amenities, "The ease of access into communities identified for community forestry programs is vital for communications, marketing, distribution of goods and/or services, and other administrative purposes" (Matakala and Duinker 1991:43).

Summary of Conditions in the Literature:

- Presence of amenities and knowledge of their capacity to attract business investment (Markey and Vodden 1999, Matakala and Duinker 1991).

Table 2. Summary of Conditions for Sustainable Community Forestry Related to Attributes of the Community as Identified in the Literature[7]

- The existence of local forest knowledge (Betts 1998).
- Available local technical knowledge and skills (Betts 1998, Matakala and Duinker 1991, Vodden 1999).
- A commitment to education and training (Markey and Vodden 1999, Pinkerton 1998).
- A dynamic leader or "sparkplug" (often an elected official, e.g., the mayor) and /or a core group of committed individuals who are motivated and, together, have the necessary skills, knowledge and community acceptance to make a community forest happen (Cortex 1996, Markey and Vodden 1999, Ostrom 1999, Pinkerton 1998).
- Commitment to fostering leadership skills on an ongoing basis (Markey and Vodden 1999).
- An available, healthy pool of human resources (Markey and Vodden 1999, Matakala and Duinker 1991).

[7] For a complete list of statements found in the literature for each category, see Appendix 2.

- High level of local entrepreneurship and will to become more self-reliant (Betts 1998, Markey and Vodden 1999, Matakala and Duinker 1991).
- Highly identified with local forest ecosystems (Betts 1998, Pinkerton and Weinstein 1995)
- Community enthusiasm for forestry in general and community forestry in particular (Betts 1998, Matakala and Duinker 1991).
- Shared concern regarding the state of forestry (Vodden 1999).
- Agreement on expectations and objectives for a community forest (Cortex 1996).
- Broad-based public participation and support (Markey and Vodden 1999).
- Sense of community evidenced by a high level of civic engagement (Markey and Vodden 1999).
- Healthy local economy (Markey and Vodden 1999).
- Members of the community depend on the forest for livelihood or other variables of importance to them (Ostrom 1999, Pinkerton and Weinstein 1995).
- Existence of and potential for markets and customers (Matakala and Duinker 1991).
- Presence of amenities and knowledge of their capacity to attract business investment (Markey and Vodden 1999, Matakala and Duinker 1991).

3.2.3 Attributes Of The Community Forest Organization

3.2.3.1 Organizational Framework

There are a number of possible legal structures for a community forest organization (CFO). These include:

- under the aegis of the municipality;
- as an unincorporated body or partnership;
- as a company or corporation, making a profit and paying dividends to it shareholders by selling goods or services;
- as a cooperative, serving its own members who benefit from reduced rates for specified goods;
- as a non-profit society, organized and operated for the benefit of the public at large or for people the society serves; and
- by special statute (Cortex 1996: 67).[8]

Regardless of the legal structure of the CFO, community forests are commonly managed by a board which operates under the authority of the chosen legal entity (as cited above). The enabling conditions below are intended to be broadly applicable.

[8] See Cortex (1996) for a discussion the implications of each of the options.

Cortex (1996) suggests that CFOs should build on existing structures and community strengths to achieve community forest goals. They list a number of imperatives for CFOs:

- The structure of the community forest organization (CFO) must reflect the character of the landbase and the objectives of the community being served.
- The legal structure must enable the CFO to operate effectively. It must accommodate the full breadth of management objectives for the forest, and the various tenure types under which it might be assembled.
- The financial structure must facilitate cost tracking and evaluation by program; accommodate fluctuations in the timber harvesting business cycle; and account for the lag between investments in roads and silviculture, and revenues from harvesting.
- The administrative structure must provide an effective setting for community forest staff to carry out their mission. It must also provide for clear and efficient communication between the administrative board, staff, and the community.
- The framework for public involvement must ensure that community values are incorporated into planning and decision-making, and that interested members of the community can participate (where appropriate) in community forest activities and operations (Cortex 1996: 65).

Many of the questions of community forest governance remain unanswered, including how decisions are made. For example, the consensus-based approach proposed for most community forest management authorities may be problematic. Forest management decisions will not always create a "win-win" solution. Betts (1998) states that the potential solutions to these problems may lie in 1) the election of some community forest board members (while others are appointed), and 2) a majority vote "back-up" decision making process.

Summary of Conditions in the Literature:

- The appropriate structure of the CFO should be selected which serves to enable effective and accountable management of the community forest in a manner that reflects the values of the community being served (Cortex 1996).
- The CFO incorporates a framework for public involvement (Betts 1998, Cortex 1996).

3.2.3.2 Planning and Management

Literature on community forestry states that CFOs should have a clearly articulated mission with an explicit statement of forestry objectives (Usher et al. 1994). Pinkerton and Weinstein (1995) provide more detailed recommendations on planning and management in their description of the common features of sustainably managed community-based fisheries. These include: mechanisms for effective management, such as "the ability to make appropriate rules and to monitor compliance with rules" (Pinkerton and Weinstein 1995:181); mechanisms to ensure accountability, such as "common access" to information on the status of the resource and the ability to have public discussion to debate and scope out what "the real problems are" (Pinkerton and Weistein 1995:181); and mechanisms for adaptiveness, such as "the ability to receive clear feedback signals about success or problems" and "the ability to change in response to new problems or opportunities" (Pinkerton and Weinstein 1995:181).

Monitoring, essential for accountability and adaptiveness, is discussed by Betts (1998), Harvey (1994), Ostrom (1992) and Markey and Vodden (1999). Betts in particular offers an innovative monitoring tool for community forestry. He explains that community forests should involve a broad range of interests to serve as 'watch dogs' over forest management. These people might include timber managers, fisheries managers, tourism outfitters, hunters, naturalists and educators. This diversity, he explains, will work to ensure the management of the forest for multiple values.

Summary of Conditions in the Literature:

- CFO has a clearly articulated mission and statement of forestry objectives (Usher et al. 1994).
- Mechanisms for effective management (Pinkerton and Weinstein 1995).
- Mechanisms for accountability (Pinkerton and Weinstein 1995).
- Mechanisms for adaptability (Ostrom 1992, Pinkerton and Weinstein 1995).
- Established process for conflict resolution (Ostrom 1992).
- Established process for monitoring (Ostrom 1992, Pinkerton and Weinstein 1995, Harvey 1994, Betts 1998).

3.2.3.3 Organizational Experience

Ostrom (1999) states that the likelihood that an individual will choose to invest their time in collective management is increased if those involved in forest management at the community level have prior organizational experience. An indicator of prior experience is the presence of a broad range of CED organizations within a community, from community loan funds to community kitchens (Vodden 1999). These provide opportunities for individuals to gain organizational experience, a benefit to other CED efforts. Matakala and Duinker (1991) agree, saying that there should be local institutions relevant to community forestry already present in the community. These institutions may have been sources of previous management experience, and may also serve to support current community forestry activities.

Summary of Conditions in the Literature:

- Prior organizational experience (Ostrom 1999, Markey and Vodden 1999, Matakala and Duinker 1991, Vodden 1999).
- The existence of other CED organizations in the community (Markey and Vodden 1999, Matakala and Duinker 1991, Vodden 1999).

3.2.3.4 Partnerships and Collaboration

A CFO that has the ability to build and maintain partnerships and communication links among community members and groups, as well as with local and external firms,

agencies, governments and other communities is likely to be more successful in meeting its objectives than one that lacks this ability. Markey and Vodden (1999) state that within a community, partnerships broaden an initiative's base of public support and provide access to a wider range of local resources. Partnerships help create a shared understanding of problems, possible solutions and the agreed upon plan of action. This common understanding increases local commitment and can also mean more efficient use of scarce resources because they are shared among the partners.

Partnerships can be very beneficial, but they can also be harmful if one partner is significantly less powerful. Partnerships should only proceed where they are mutually beneficial (Kretzman and McKnight 1993). This means that any power imbalances between partnering organization must be addressed.

Often, an important prerequisite of collaboration and partnering is the presence of trust. Trust develops when individuals in a community are able to work together, and when these actors behave in recognizable ways, having the freedom to make decisions and the ability to alter their behavior (Pierce 1995). This describes an aspect of social capital, a concept mentioned earlier in the discussion of "sense of place".

Summary of Conditions in the Literature:

- The ability to build and maintain partnerships and collaborative relationships both within and outside the community (Markey and Vodden 1999).
- Partnerships that only proceed where it is mutually beneficial (Markey and Vodden 1999).

3.2.3.5 Participation

One of the most important tenets of community forestry is broad participation in planning and management (Betts 1998, Matakala and Duinker 1991). Participation of diverse interests provides access to new and creative ideas and is a proactive approach to handling potential conflicts between divergent community interests. Pinkerton and

Weinstein (1995) and Harvey (in Betts 1998) concur with this statement, adding that there must be mechanisms for equitable representation of groups. However, the interests of these groups must overlap sufficiently to ensure that common ground emerges. Ostrom (1999) proposes that there must be a common understanding of the forest resource and how actions affect each other and the forest. If there are highly incompatible hidden agendas driving the most important actors, then success is doubtful and conflict may arise Pinkerton and Weinstein 1995). Therefore, as identified in section 3.2.3.2, a conflict resolution mechanism must be established to address this situation (Ostrom 1992). It is important to note that the will to participate often depends on other conditions such as having a real voice in decision-making (Pinkerton and Weinstein 1995), which is closely tied to both the organizational structure and the tenure held by the CFO.

A discussion of participation raises the question of how to include non-local interests. Perhaps the most commonly raised criticism of community forestry is that the interests of people outside the community who depend upon or use the forest may not be sufficiently represented in locally-managed forests. Many of the visions developed for community forestry (see Burda et al 1997, Tester 1992 and Maki 1993) do include an umbrella role for the provincial government. This authority could be charged with representing these interests (Betts 1998).

Summary of Conditions in the Literature:

- Participation of a broad spectrum of interests with sufficient overlap of perspective to find common ground (Betts 1998, Cortex 1996, Markey and Vodden 1999, Pinkerton and Weinstein 1995).
- An established process for ensuring fair and equitable representation of all local interests (Harvey 1994 in Betts 1998, Pinkerton and Weinstein 1995).
- Common understanding of the forest: Users have shared image of the forest and how their actions affect each other and the forest (Ostrom 1999)

3.2.3.6 Financing and Business Planning

The ability of the CFO to access startup funds, whether from external or internal sources is of critical importance. Markey and Vodden (1999) believe that for CED efforts to be successful, the community should contribute an initial investment of its own resources, including its own money. In some cases, however, this monetary investment may not be available. Betts (1998) states that the proven ability to access outside funding for forestry projects is what is important. But to be sustainable in the long term, revenue autonomy should be achieved in a timely manner whether initial financing comes from outside or inside the community (Usher et al. 1994).

Many communities in B.C. will have a difficult time financing their community forest operations, at least in the beginning stages. However, a high degree of self-reliance is very important. Because of this, communities may need to scale back their vision of what type of community forest they would like, and may need to ease into the process of developing a community forest slowly (Fulton 1998). Given this, the ability to conduct sound business planning is a critical skill required for the development of a community forest initiative.

Beyond the startup phase of a community forest's development, a commitment to maximize the value of forest products harvested is proposed by Cortex (1996) as a factor in the success of community forests. Drescher (1997b) concurs, explaining that a commitment to maximizing the value to biomass ratio of products extracted from the forest is a key principle of ecoforestry. This commitment is difficult to secure when the drive for short-term economic gain is strong. Therefore, a long-term approach to financial planning is important to facilitate the incorporation of these concepts (Markey and Vodden 1999), and should be adopted by community forests seeking to balance economic, social and ecological values.

Summary of Conditions in the Literature:

- Access to capital (Betts 1998, Markey and Vodden 1999, Vodden 1999).
- Ability to conduct sound business planning (Vodden 1999).
- Revenue autonomy (Betts 1998, Usher et al. 1994).
- Ability and commitment to maximize the value of the wood and forest products harvested (Betts 1998, Cortex 1996).
- Long-term approach to financial planning (Markey and Vodden 1999, Vodden 1999).

3.2.3.7 Ecological Sustainability

Community-based management is believed to lead to more sustainably managed resources in ecological terms, but there are no guarantees of this under all conditions. Fulton (1998) found that several individuals involved with community forest development in B.C. hold the opinion that many communities, if given the option, would maintain industrial logging practices (Mitchell-Banks, 1998; Profilis, 1998; Routley and Pollock, 1998; Weir 1998 as cited in Fulton 1998). There are a number of reasons why resource degradation could be perpetuated by communities. Perhaps one of the most problematic is ignorance of local ecosystem composition, form and function that must be maintained to ensure a healthy system. Planning techniques such as the Silva Forest Foundation's ecosystem-based landscape planning attempt to solve this problem (Burda et al 1997).

A number of authors propose that in order to achieve ecological sustainability, community forest planning must incorporate principles of sustainable forest management. Pinkerton (1998) recommends that a wholistic management plan be developed and implemented, and that planning combines traditional local knowledge and values with the science of landscape ecology. Numerous authors who write about ecologically sustainable forestry, or ecoforestry, list guiding principles that should be used in the writing of wholistic management plans (Smith 1997, Hammond and

Hammond 1997, the Scientific Panel 1995). For example, Smith (1997:203) lists 10 Elements of Sustainability as follows:

1. Forest practices will protect, maintain and/or restore fully functioning ecosystems at all scales in both the short and long terms.

2. Forest practices will maintain and/or restore surface and groundwater quality, quantity, and timing of flow, including aquatic and riparian habitat.

3. Forest practices will maintain and/or restore natural processes of soil fertility, productivity and stability.

4. Forest practices will maintain and/or restore a natural balance and diversity of native species of the area, including flora, fauna, fungi and microbes, for purposes of the long-term health of ecosystems.

5. Forest practices will encourage a natural regeneration of native species to protect valuable native gene pools.

6. Forest practices will not include the use of artificial chemical fertilizers or synthetic chemical pesticides.

7. Forest practitioners will address the need for local employment and community stability and will respect worker's rights, including occupational safety, fair compensation and the right of worker to bargain collectively.

8. Sites of archeological, cultural and historical significance will be protected and will receive special consideration.

9. Forest practices executed under a certified Forest Management Plan will be of the appropriate size, scale, time frame and technology for the parcel, and adopt the appropriate monitoring program, not only to avoid negative cumulative impacts, but also to promote beneficial cumulative effects on the forest.

10. Ancient forests will be subject to a moratorium on commercial logging, during which time research will be conducted on the ramifications of management in these areas.

The use of guiding principles such as these could ensure ecological sustainability. But there is a missing link here. The literature on ecologically sustainable forestry focuses on good forestry practices, but pays little attention to what might motivate a community to

engage in such practices. I propose that there are other *pre-conditions* that lead a community to develop such a plan. Many of these pre-conditions are derived from forest tenure and management rights (as proposed by Pinkerton and Weinstein 1995) . A discussion of tenure and management rights forms the final category in this chapter.

The critical question is: what conditions are likely to generate a sense of stewardship that would lead a community to engage in ecologically sustainable forest management? Few authors have addressed this question directly. Although the CPR literature (including Ostrom 1999) makes is very clear that communities are likely to act in the interest of economic sustainability if they can enjoy the economic benefits of their management, there is little discussion of whether this can be extended to ecological sustainability.

Betts (1998) attempts to address the question of ecological sustainability by proposing that there should be local ecological, economic and social incentives to manage for sustainability. He adds that there should exist a clear notion of the connection between forest health and community health. Betts (1998) also discusses the importance of local forest knowledge in ensuring ecologically sustainable forest management, a proposition also made by Harvey (1998).

Ostrom (1999) cites a sufficiently low discount rate[9] as being of great importance in enhancing the likelihood of self-management. Vodden (1999) touches on this concept by saying that a commitment to a long-term approach, i.e., a willingness and ability to sustain development efforts over the long term is a factor in the success of CED. Although one could infer that these authors include ecological sustainability in their definition of success, this is not made explicit. Likewise, Matakala and Duinker (1991)

[9] The discount rate is "The rate at which an economic agent, such as time preference, converts future values to current values. The social discount rate expresses the preference of society as a whole for present returns rather than future returns...." (Dunster and Dunster 1996:92).

assert that planning which attempts to balance a wide array of uses/benefits derived from the forest is thought to lead to more sustainable forestry. But their discussion is focused on economic sustainability, not ecological sustainability.

In order to achieve long-term economic success, the integrity of forest ecosystems must be maintained. Given this, the hypotheses presented in the literature concerning economic sustainability will be included in my discussion of ecological sustainability.

Summary of Conditions in the Literature:

- Low discount rate (Ostrom 1999).
- Local knowledge of the resource (Betts 1998, Pinkerton 1998).
- Understanding of the connection between forest health and community health (Betts 1998).
- Long-term approach to planning (Markey and Vodden 1999).
- Focus on multiple uses and benefits to be derived (Matakala and Duinker 1991).
- Existence of incentives for sustainable management if actors are driven to act unsustainably (Pinkerton and Weinstein 1995).

Table 3. Summary of Conditions for Sustainable Community Forestry Related to Attributes of the Community Forest Organization as Identified in the Literature [10]

- The appropriate structure of the CFO should be selected which serves to enable effective and accountable management of the community forest in a manner that reflects the values of the community being served (Cortex 1996).
- The CFO incorporates a framework for public involvement (Betts 1998, Cortex 1996).
- CFO has a clearly articulated mission and statement of forestry objectives (Usher et al. 1994).
- Mechanisms for effective management (Pinkerton and Weinstein 1995).
- Mechanisms for accountability (Pinkerton and Weinstein 1995).
- Mechanisms for adaptability (Ostrom 1992, Pinkerton and Weinstein 1995).
- Established process for conflict resolution (Ostrom 1992).
- Established process for monitoring (Ostrom 1992, Pinkerton and Weinstein 1995, Harvey 1994, Betts 1998).
- Prior organizational experience (Ostrom 1999).
- The existence of other CED organizations in the community (Markey and Vodden 1999, Matakala and Duinker 1991, Vodden 1999).
- The ability to build and maintain partnerships and collaborative relationships both within and outside the community (Markey and Vodden 1999).
- Partnerships that only proceed where it is mutually beneficial (Markey and Vodden 1999).

[10] For a complete list of statements found in the literature for each category, see Appendix 2

- Participation of a broad spectrum of interests with sufficient overlap of perspective to find common ground (Betts 1998, Cortex 1996, Markey and Vodden 1999, Pinkerton and Weinstein 1995).
- An established process for ensuring fair and equitable representation of all local interests (Harvey 1994 in Betts 1998, Pinkerton and Weinstein 1995).
- Common understanding of the forest: Users have shared image of the forest and how their actions affect each other and the forest (Ostrom 1999).
- Access to capital (Betts 1998, Markey and Vodden 1999, Vodden 1999).
- Ability to conduct sound business planning (Vodden 1999).
- Revenue autonomy (Betts 1998, Usher et al. 1994).
- Ability and commitment to maximize the value of the wood and forest products harvested (Betts 1998, Cortex 1996).
- Long-term approach to financial planning (Vodden 1999).
- Low discount rate (Ostrom 1999).
- Local knowledge of the resource (Betts 1998, Pinkerton 1998).
- Understanding of the connection between forest health and community health (Betts 1998).
- Long-term approach to planning (Markey and Vodden 1999).
- Focus on multiple uses and benefits to be derived (Matakala and Duinker 1991).
- Existence of incentives for sustainable management if actors are driven to act unsustainably (Pinkerton and Weinstein 1995).

3.2.4 Attributes Of The Tenure

Forest tenure refers to the contractual arrangements governments use to transfer property rights to the private sector. CPR theorists broaden the notion of property rights to encompass all management rights and duties associated with resource management (Ross 1995). Pinkerton and Weinstein (1995) list seven categories of management, each of which has corresponding rights and duties. They are:

1. policy-making and evaluation
2. ensuring the productive capacity of the resource
3. regulating access
4. regulating harvest
5. coordinating potential conflicting uses
6. enforcing or implementing rules and management activities
7. maximizing benefits

Pinkerton and Weinstein (1995) state that for fishermen to invest in collective, sustainable management, then they must be able to assert at least some of these management rights on an informal, if not formal basis.

This proposition is supported by Ostrom (1999), who hypothesizes that communities involved in forest management require a level of autonomy over access and harvesting rules. This is summed up by Cortex (1996) who say that community forestry requires meaningful tenure with sufficient duration, security and delegation of authority to encourage community involvement and achieve community-defined objectives. This includes the meaningful delegation of authority and responsibility for resource planning and management from the provincial government to the community (Cortex 1996). This form of local control is a major theme in CED literature (Markey and Vodden 1999).

One aspect of forest tenure that does not appear frequently in the literature on community forestry relates to the proximity of the forest to the managing community. The absence of this issue, which concerns access rights, may be attributed to the possibility that many authors assume that community forestry will involve land bases next to or surrounding a 'community'. As we see in B.C., this is not always the case as demonstrated by one of the best known community forests, Tree Farm Licence held by the Revelstoke, which is 55 km away from the community.

Summary of Conditions in the Literature:

- Ability to assert management rights on an informal, if not formal basis (Ostrom 1992, Pinkerton and Weinstein 1995, Pinkerton 1998).
- Forest tenure with sufficient duration, security and delegation of authority to encourage community involvement and achieve community-defined objectives (Cortex 1996).
- Meaningful delegation of authority and responsibility for resource planning and management from the provincial government to the community (Cortex 1996, Markey and Vodden 1999, Matakala and Duinker 1991, Ostrom 1992, Pinkerton and Weinstein 1995, Schlager and Ostrom 1992).
- Access to forest resource that is close to the managing community (Cortex 1996).

Table 4. Summary of Conditions for Sustainable Community Forestry Related to Attributes of the Tenure as Identified in the Literature

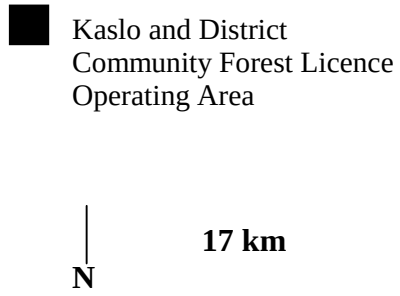
- Ability to assert management rights on an informal, if not formal basis (Ostrom 1992, Pinkerton and Weinstein 1995, Pinkerton 1998).
- Forest tenure with sufficient duration, security and delegation of authority to encourage community involvement and achieve community-defined objectives (Cortex 1996).
- Meaningful delegation of authority and responsibility for resource planning and management from the provincial government to the community (Cortex 1996, Markey and Vodden 1999, Matakala and Duinker 1991, Ostrom 1992, Pinkerton and Weinstein 1995, Schlager and Ostrom 1992).
- Access to forest resource that is close to the managing community (Cortex 1996)

The summaries of conditions from this literature review were compiled and used to inform the case study interview questions. As will be seen in the next chapter, some new conditions for sustainable community forestry emerged during the interview process. A comprehensive list, including the conditions identified in the literature and those from the case study, will be examined in Chapter 5.

Figure 3. Map of Timber Supply Areas and Forest Regions of B.C.

(courtesy of Utzig and Macdonald 2000)

Figure 4. Map of the Kootenay Lake Timber Supply Area: Licencee Operating Areas (courtesy of Ministry of Forests, Kootenay Lake District)



4. CASE STUDY

On January 2, 1996, the B.C. Ministry of Forests (MOF) announced the opportunity for a Community Forest Licence in the Kootenay Lake Timber Supply Area (TSA). This forest licence authorized an Allowable Annual Cut (AAC) of 10 000m3 for the Kaslo/North Kootenay Lake community, and was based on the goals of encouraging local involvement in the management of forest resources and creating local employment. One month later, a public information forum was held to inform the local public of this new opportunity (Kaslo and Area Community Forest Planning Committee 1997). During this forum, the multi-sectoral community-based resource advisory group, the Kaslo and Area Round Table (KART), was asked by those present to proceed with a unified application (KCFS 1999). KART then established a sub-committee of its members who formed the Planning Committee which was given the mandate of gathering background information, assessing models for management and governance, and providing recommendations back to the community (Kaslo and Area Community Forest Planning Committee, 1997).

The goal of the Planning Committee was to produce a model that would contribute to the sustainability of the community and its resources. Their desire was to include the interests of the community and ensure greater community control. Given these objectives, they created a non-profit community group, the Kaslo and District Community Forest Society (KCFS)[11] which was incorporated in May 1996 (Kaslo and Area Community Forest Planning Committee, 1997). The creation of this operating model for

[11] The Planning Committee recognized that logging development would take place on lands outside the Kaslo Village limits in the rural district. The district is defined as Rural Area D, which comprises the west side of the North Arm of Kootenay Lake. While the formal name of the organization is the Kaslo and District Community Forest Society, the abbreviation KCFS is most commonly used. In this text, references to the community include Kaslo and Rural Area D.

the Kaslo Community Forest (KCF) was the result of a consensus-based process of multi-sectoral public consultation which was recognized with a Forest Renewal B.C. (FRB.C.) Community Excellence Award for 1997 (KCFS 1999). A detailed description of the organization will follow in section 4.3.

The application prepared by the Planning Committee was successful, and the tenure granted to the KCFS was a 15 year, non-replaceable Forest Licence (FL), under which the KCFS has an AAC of 10 000 cubic metres (m^3) of timber per year. The KCFS Mission Statement is as follows:

> The Kaslo and District Community Forest Society will manage and operate the community forest licence on behalf of the Kaslo and District Community. The Society will practice responsible ecological stewardship of the local forest ecosystem. The Society will manage the Community Forest Licence in a fiscally accountable and economically sustainable manner while contributing to the economic viability of the area (Mulkey 1999:5).

This Chapter is devoted to telling the story of the Kaslo Community Forest: how it got started; what the structure of the organization is; what policies, rights and responsibilities govern the activities of organization; and what the present and future challenges are. This chapter will conclude with a list of conditions that are or have been important for the KCFS. To begin, the historical and biophysical context of the KCF will be described.

4.1 HISTORICAL AND BIOPHYSICAL CONTEXT

The Village of Kaslo is located on the shores Kootenay Lake at the mouth of the Kaslo River, in the Columbia Mountains of South-Eastern British Columbia. Founded in the 1890s, Kaslo began as a silver mining boom town, but as the mining industry waned, a dependence on forestry soon grew in its place. Low resource prices during the recession of the early 1980s led to a decline in forestry in the area. The local population decreased

dramatically until 1988 when the rate of out-migration decreased. Since then, the economy has grown and diversified into sectors other than primary resource extraction, and population levels have risen (RSMI 1994). The most current statistics put the population of Kaslo at 1063 people (Statistics Canada 1996) with approximately another 1500 in the surrounding area. The face of the community has changed a great deal in the last two decades, and tourism has become an important element of the local economy. Pension and investment income now comprises a major share of basic income in the community (RSMI 1994). However, 22% of those employed in Kaslo continue to work in forestry and forest related industries (Statistics Canada 1996).

The region of the Kootenays where Kaslo is located falls within the traditional territory of the Lower Kootenay First Nation, who are members of the Ktunaxa-Kinbasket Tribal Council. The Tribal Council intends to negotiate a treaty for the area, which encompasses all of the Kootenay Lake TSA. The Lower Kootenay Nation is centered in Creston, and is made up of approximately 160 members (RSMI 1994). The Sinixt Nation and the Shuswap Nation also include the are of Kootenay Lake in their land claims. To date, these First Nations have not expressed an interest in the management of KCF. Therefore, First Nations involvement in the community forest will not be discussed in this paper. It is quite possible, though, that this will become a very important issue in the future.

The residents of the Village of Kaslo and the surrounding area have a strong sense of community[12]. This is evidenced by the large number of community service organizations (more than 30 in a community of just over 1000 residents) and by the high participation rates at community events. One such event, Kaslo May Days, is a celebration of local culture held every year on the long weekend in May. This event lasts

[12] Sense of community is defined in Chapter 3 as a collective awareness of what makes a community unique. A strong sense of community is evidenced by a commitment to place and civic engagement. See section 3.2.2.7 for more details on this subject.

for three days, and includes activities ranging from logger sports to Shakespeare in the park, to the traditional May Pole Dance, which has been performed by the grade one elementary school class every year for over one hundred years.

The KCF is located in the Kootenay Lake TSA (See Figure 3 and Figure 4). The TSA encompasses approximately 1.13 million hectares of land and is bound by the Purcell Mountain Range on the east and the Selkirk Mountain Range on the west. The TSA includes both moist and wet climatic regions and is commonly referred to as the 'Interior Wet Belt' (RSMI 1994). A portion of the KCF falls in the ICH (Interior Cedar-Hemlock) zone, which has the greatest tree diversity of all the zones in B.C. (RSMI 1994). Ecosystems in the community forest vary from low elevation Fir-Cedar-Hemlock forest at lakeside to alpine Spruce-Balsam types higher up (KCFS 1999).

The Kootenay Lake TSA supports a great diversity of wildlife. Seventy percent of the bird species known to occur in B.C. and 62% of bird species which breed in the province are known to exist in the Kootenay Lake area. The TSA supports several species of wild ungulate, as well as large mammals such as cougar, wolf, and black and grizzly bear. Five red-listed, endangered or threatened animal species are found in the TSA: Towsend big-eared bat, canyon wren, common poorwill, forster's tern and prairie falcon. Blue listed, sensitive or vulnerable species include five mammals and 23 bird species. Of the blue-listed species, several require old-growth forest conditions such as large, dead trees or coarse woody debris (RSMI 1994).

There are significant demands on the area's water resources for consumptive uses and ecological maintenance. Watersheds used for domestic water supply cover 28% of the TSA's area, but contain 40% of the total wood volume (RSMI 1994). Within the KCFS' licence area there are two community watersheds, and a number of domestic

watersheds[13] (KCFS website). Kootenay Lake and its tributaries are also important fish habitat .The lake serves as a critical reservoir for regulation of downstream water levels for power generation. As a result, Kootenay Lake experiences fluctuating water levels, which can affect fish habitat conditions (RSMI 1994).

Another important element of this situation is the fact that the landscapes in the TSA are a highly valued visual resource. The TSA's combined accessibility and relatively undisturbed natural quality make the area highly desirable and well-used for wildlife viewing and recreational hiking and skiing. The area also supports significant levels of recreational hunting and angling (RSMI 1994). The important biodiversity, water quality and scenic values described here combine to create a complex system from the point of view of management.

4.2 ORIGINS OF THE KASLO COMMUNITY FOREST

The history of community interest in participating in the management of local forests began over 16 years ago in the early 1980s as local residents watched workers from out of town log the area and truck the logs out of the valley. Organizations like the Kaslo Community Resource Council, and the Kaslo Forest Enhancement Society were formed. Local efforts to obtain timber rights at that time failed due to a lack of political will on the part of the provincial government (McLeod 1999). The seed of community forestry was planted, though, and in 1995, when the MOF's Timber Supply Review identified 80,000m3 of unallocated timber in the Kootenay Lake TSA, people in Kaslo

[13] Domestic watersheds licences are granted by the B.C. Ministry of Environment, Lands and Parks (MELP) to individual water users seeking to secure a guaranteed water supply. Under the Forest Practices Code Act (the Code), all licenced domestic watersheds must be mapped in Forest Development Plans. When there are fifteen or more domestic licences in a watershed, a Community Watershed is designated by the MOF and MELP Regional Managers under the Code. This designation triggers special Code requirements to protect the integrity of the watershed (Personal Communication, Steve Chatwin, MOF Research Branch January 2000). Logging in domestic and community watersheds is a very controversial issue. As will be highlighted Chapter 5, many people believe that by awarding community forest licences, the MOF is delegating the responsibility of resolving conflict to communities.

knew exactly what they wanted done with it. The unallocated timber had been previously classified as forest reserve and as such did not represent a reallocation of timber volume from existing licencees. The local MLA, Corky Evans, Parliamentary Secretary to Petter, then Minister of Forests, toured the TSA to consult with the communities and then presented a report which recommended a portion of the unallocated timber be used to create two Community Forests, one in Kaslo and one in Creston using the Forest Licence tenure in both cases. At first, numerous options were circulated by various members of the community, but proponents were soon informed by the government that only a united community effort would succeed in obtaining the forest licence. This move was later applauded in the local newspaper: The North Arm Voice.

> Corky Evans' vision and courage in proposing this initiative is both proactive and progressive. He challenged us to work in the world of the community, to build collaborative rather than competitive relationships with our neighbours and local industry. He encouraged us to acknowledge the needs of all of the community and to come to consensus on a proposal for tenure. Our experiment in collaboration has enabled us collectively to have a stronger voice in the management of our local resources (NAV 1996:10).

When the application call came from the MOF, a town meeting was held filling the Community Hall to standing room only. Overwhelming support was given to the Kaslo and Area Roundtable to pursue the licence on behalf of the community. Over a year of intense local meetings and negotiations followed. A feasibility study (funded by Forest Renewal British Columbia)was completed and a non-profit society created. In February of 1997 the MOF offered a Forest Licence (FL) to Kaslo. The MOF had never granted a FL to a non-profit society before.

The granting of this licence to a community-based non-profit society was not the only innovation made by the MOF in this instance. Most FLs are accompanied by appurtenancy clauses that obligate the licencee to link their allocated cut to a mill. The tenure granted to the KCFS charged them with managing the forest for its many values,

not with supplying a manufacturing facility[14]. The tenure awarded to the KCFS does place many constraints on how they manage the forest, but according to one interviewee, the removal of this specific constraint was a key factor in the development of this community forest.

To date the KCFS has engaged in many activities, but the bulk of their time has been devoted to operational planning. This planning, along with the structure and policy of the organization are discussed in detail in section 4.3. Other projects to date include: the building of cross-country ski and mountain biking trails in the community forest by volunteers; inventorying of local forestry, logging, and resource management professionals and contractors; FRBC funded worker training, water quality monitoring, backlog reforestation, terrain analysis and biodiversity assessments; and the creation of a KCFS website (NAV 1998).

The initiation of the KCF entailed many challenges. The characteristics of a FL did not create the ideal medium for the development of a community forest. But given that the forest surrounding Kaslo was zoned as working forest in the regional land use plan, the community felt that it was in the best position to protect the local watersheds if logging must take place (NAV 1996). As expressed in the local paper:

> We see the community forest as an opportunity to manage the local forest differently: To settle for something gentler and reasonable and to take advantage of an opportunity that is available to us. We see this community forest licence as a leading edge opportunity for changing the form of engagement in the management of local resources for the benefit of local communities throughout the province (NAV 1996:10).

The work of the volunteer Planning Committee was long and arduous. They often met several times a week and gave up weekends in order to meet the application deadline.

[14] There is a clause in the licence that stipulates that the KCFS must "offer" 50% of the timber they harvest to Meadow Creek Cedar Ltd, a sawmill at the north end of Kootenay Lake. This does not, however, mean that the KCFS must sell its wood to the mill. The KCFS can sell its wood to the highest bidder. The clause, therefore, is somewhat of a formality.

Much of this initial work was committed to developing a decision-making process that would reflect the values of the community. The group decided early on to operate using consensus decision-making, and to obtain the services of a professional facilitator. Because of their participation in KART, nearly all of the people on the Planning Committee had previous experience in multi-stakeholder natural resource planning processes that used the consensus model. This experience was invaluable in the development of the new organization. Despite this, a great deal of group learning was necessary in order to make decisions efficiently. It was explained to me that the Planning Committee could not have functioned without the high level of energy and commitment of its members. The current community forest is the result of the vision of this group and many of the policies in use today were generated by them.

With the selection of the inaugural board of the KCFS, a number of the decisions made by the planning committee had to be revisited. In the application process, in order to meet funding needs, the Planning Committee opted to partner with a local contracting company, and worked out an agreement with that company whereby the company would manage the FL for the first five years, and provide the start up funding required. The inaugural board debated this decision at length. They felt that too much control of the FL would be 'contracted out', and were concerned that this might diminish the legitimacy of the community forest.

During this time, the federal government lending agency, the Community Futures Corporation of the Central Kootenays had new funding available for community initiatives, and the KCFS approached it for a loan. This, they believed, gave them an opportunity to maintain their autonomy and to decline the partnership with the contracting company. However, at first, Community Futures informed the KCFS that they must partner with another major licencee in order to obtain a loan. This is because FLs do not constitute collateral. But entering into a management partnership was unacceptable to

the Board because they did not want to give up the limited management authority they acquired from the licence. Eventually, Community Futures changed its decision and granted the KCFS a loan. However, the amount offered by Community Futures was insufficient to support the KCFS and so a deal was struck with Meadow Creek Cedar Ltd., a sawmill about 50 km North of Kaslo, whereby Meadow Creek Cedar Ltd. matched the $60 000 loan granted by Community Futures in exchange for receiving the right of first refusal on 50% of the wood the KCFS cut. Meadow Creek Cedar Ltd. was not granted any management authority, and so the agreement was accepted by the KCFS.

4.3 CURRENT STATUS OF THE KCFS

4.3.1 Organizational Structure

As described above, the KCFS is a registered non-profit organization that holds and manages the Community Forest Licence on behalf of, and with direction from, the people of the Kaslo/North Kootenay Lake community. The Society is composed of a nine-member Board, which comprises two appointees of local government (Kaslo Village and Regional District of Central Kootenay), and seven directors chosen by application from the community (KCFS 1999). Under the KCFS structure, the Board takes direction from the public and implements plans which are acceptable to the community, government agencies, and other institutions (KCFS 1998).

The organizational structure of the KCFS is a hybrid between the sector model, and the perspective model. The sector model, commonly used in natural resource management, is characterized by the appointment of representatives of community organizations and government to seats on the board. These representatives are accountable to their members and constituents. In the perspective model,

> directors are selected from the community at large for their individual perspectives and personal experiences, rather than representing a

> particular organization. Selection criteria aim to balance community-based interests and perspectives, including gender, age and balance of rural and urban geographical areas (Mulkey 1999:5).

Any one individual is likely to represent a number of perspectives. For example, one board member could be a logging contractor, a fly fisherman and a parent, or a teacher, a hiker and domestic water-user. Seven of the nine seats on the board are held by people selected through the perspective approach. Two others are appointed through the sector model (Mulkey 1999).

The use of this hybrid model creates a balance of community values with public accountability from the municipality and the regional district. This model deviates from the norm, and an understanding of how it functions requires an investment of time and commitment from all Board members (Mulkey 1999). It is a challenging way to structure an organization, but it significantly raises the quality of discussion because Board members are not in opposition from the outset. This adversarial dynamic is common within organizations that use the sector model (Mulkey 1999).

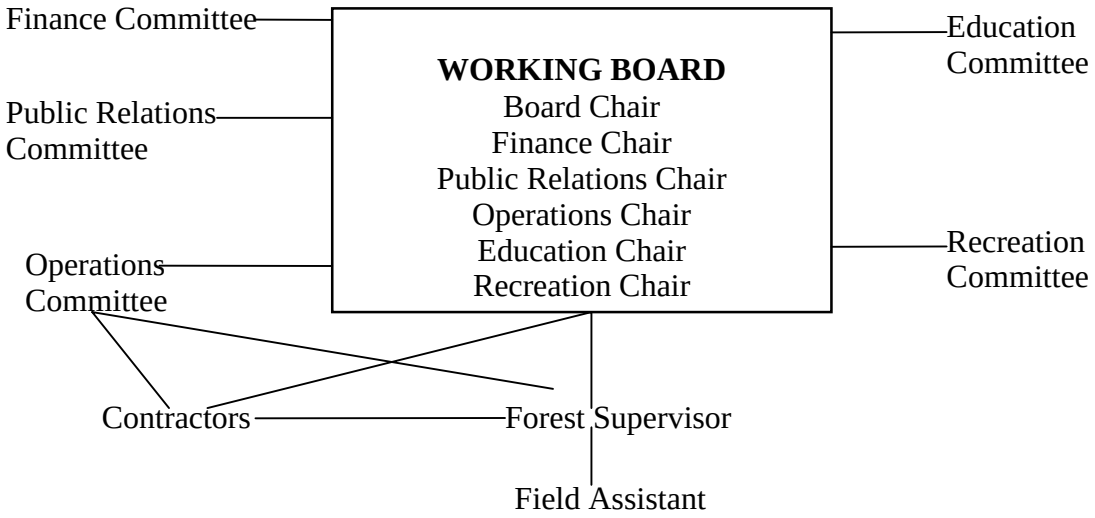
The inaugural board was selected by the planning committee with the assistance of an external auditor. The selection criteria used then remain in use today. They are as follows:

- the individual understands and shares the goals of the organization
- has knowledge and experience in relevant areas (business, finance, forestry, community relations etc...)
- is willing to work hard
- is able to work cooperatively as a member of the board
- is trustworthy
- has an interest in community service

During the field research phase of this paper, the structure outlined below was in place. As seen in the diagram, the linkages between the staff and the Board were unclear.

This lack of clarity has been a major impetus for the development of new policy that includes a redefined organizational structure.

Figure 5. Organizational structure of the KCFS



The public is invited and encouraged to sit on the various committees of the KCFS. Public participation is also made possible through open houses. The KCFS office also maintains an open-door policy. During the first significant logging season, there were 16 people employed by the community forest (beyond the two forest technicians). These 16 were employed through three contractors for road building, logging and hauling. These contracts lasted about two months. It should be noted that these workers will be employed by other operations in the TSA during the other months of the year.

4.3.2 Policies of the KCFS

In a broad sense, the Societies Act and the Forest Practices Code Act set policy for the KCFS. These are insufficient, however, considering the range of values that the KCFS wants to protect in its policy. Much of the guiding policy the Board used in the initial

stages was composed by the Planning Committee. It was not until the Board began making major decisions regarding operations that they realized that the policy was incomplete and insufficient in several areas. One board member informed me, though, that they could not have known that this would be an issue until it came to making serious decisions regarding operations.

At the time of writing, the Board was undertaking a major policy creation process under the direction of the policy committee and former facilitator, Susan Mulkey. Mulkey recently completed "A Policy Development Guide for Community Forests in B.C." (1999) which is proving to be of great service in this endeavour.

In terms of harvest planning and work in the forest, the following excerpts from the 1998-99 Forest Development Plan highlight some key policies that are in place:

> *Community Forest Policy*
>
> It is the intention of the KCFS to manage the community forest in a manner that is in the best interests of the community. This will be done by implementing forestry operations and community projects that are ecologically, socially, and economically sustainable.
>
> One of the ideals of this community forest is to ensure that any logging in our watersheds and viewscapes will be done in a way that is acceptable to this community. Under current KCFS policy, no forest development activities will occur in watersheds or sensitive areas until sufficient information is available, and until discussions are held with affected users. As a result, no blocks are scheduled in this plan for any watersheds or other highly sensitive areas
>
> *Forest Management Objectives*
>
> Timber management practices will be used which protect the integrity of other environmental and social values. This will be achieved by recognizing the existence and importance of the whole spectrum of forest values. In all cases, the licencee will ensure that sufficient information about all resources is in place prior to making individual forest management decisions.

A variety of types of harvesting and silviculture systems will be used to meet the objectives of protecting other resource values. Cutblock systems, sizes, and configuration have been tailored to the individual concerns for each area. The KCFS also intends to use a number of different forest management systems for future inclusion in educational or model forest projects on our community forest.

All sections of the licence will be in accordance with the Forest Practices Code (FPC), the Kootenay-Boundary Land Use Plan, and all other applicable provincial acts and regulations. Wherever possible, the community forest will be managed to a level which exceeds existing standards

Protecting Other Resource Values

It is the intention of the community forest to ensure that non-timber resources will not be compromised as a result of harvesting activities. A number of specific objectives and measures to achieve this are discussed below

As well as protecting non-timber forest resources, the KCFS hopes to enhance these values wherever possible. Plans for this year include training and activity programs for: enhanced recreational opportunities, water quality and quantity assessments, wildlife inventories, terrain stability mapping, and forest health assessments. Attempts will also be made to improve wildlife biodiversity values through forestry activities. (KCFS 1998b)

4.3.3 Legal Framework Governing the Community Forest

The Canadian Constitution grants decision-making powers to the provinces in the area of forest management (British Columbia 1996). The KCFS operates on Crown Land, owned by the Government of British Columbia. The MOF is authorized by the Ministry of Forests Act, RSB.C. 1996, C. 300 to manage the province's forest base (WCEL 1999: 5-12). Section 4 of the Ministry of Forests Act sets out the purposes and functions of the Ministry, which are:

- to encourage maximum productivity of the forests and range resources in B.C.;

- to manage, protect and conserve the forest range resources of the government , having regard to immediate and long-term economic benefits they may confer on B.C.;

- ...coordinate management with other ministries, agencies and the private sector;

- to encourage a vigorous, efficient and world competitive timber processing industry in B.C.; and,

- to assert financial interest of the government in its forest and range resources in a systematic and equitable manner (WCEL 199: 5-12).

The two major pieces of legislation that assist the MOF in fulfilling these functions are the Forest Act, RSB.C. 1996, C.157 and the Forest Practices Code of British Columbia Act, RSB.C. 1996, C.159. The Forest Act sets out the timber tenure system for the province, and also requires the Chief Forester to determine the rate of logging for the province's forest lands. There are other ministries and other laws that govern the KCFS such as the Ministry of Environment, Land and Parks and the Ministry of Finance. However, the focus of this paper will remain on forest management and the Ministry of Forests as it exerts the most influence over the operations of the KCF.

The Forest Practices Code Act (hereafter referred to as the Code) is the main piece of legislation governing forest planning and forest practices in B.C. It includes timber harvesting, road construction, maintenance, use and deactivation, silviculture treatment, grazing, hay cutting, fire use, control and suppression and other such activities (WCEL 1999), as well as the maintenance and protection of water, fisheries, wildlife, biological diversity and cultural heritage resources; protection regarding unauthorized timber harvesting and trespass, and; the purchase of botanical forest products (Marchak et al. 1999).

There are penalties for non-compliance with the Code. Part 8 of the Code establishes the Forest Practices Board, which has powers to conduct audits and special

investigations of compliance with the Code and the appropriateness of government enforcement. Essentially, the Forest Practices Board is to be an independent public watchdog whose members are appointed by government, and whose staff are government employees, with a role somewhat similar to the Office of the Ombudsman. Further to this, Part 9 of the Code established a Forest Appeals Commission, a quasi-judicial tribunal with forestry expertise created to hear appeals relating to determinations and orders made by forest officials under the Code (WCEL 1999).

The Code requires that all Forest Licence holders develop operational plans to be approved by the MOF's District Manager. Operational planning is the most site specific type of planning within the provincial hierarchy of forest land use planning. In the case of the KCFS, operational planning comprises the drafting of Forest Development Plans (FDPs) and Silviculture Prescriptions (SPs). These plans provide in depth information pertaining to proposed road building, timber harvesting and other operational activities on specific areas (WCEL 1999). The plans must also demonstrate how the objectives set out in strategic land use plans will be met. In order to gain insight into the management rights of the KCFS, it is important to understand that they must meet the obligations of the Code and must also adhere to any decisions made in the regional strategic land use plan. This requires a great deal of administrative work and can be extremely onerous for small licencees like the KCFS.

In 1992, the Commission on Resources and Environment (CORE) initiated the West Kootenay-Boundary CORE process. The process set up multi-stakeholder, consensus-based negotiations to arrive at land use designations aimed at defining sustainable resource use (Marchak et al. 1999). The West Kootenay-Boundary Land Use Plan was announced by the provincial government in March of 1995. The concept of higher level plans was introduced with the Code as a means of increasing government's commitment to strategic landuse plans. They also provide a legal link between strategic

plans (such as the West Kootenay-Boundary Land Use Plan) and the operational plans that guide on-the-ground forest practices (WCEL 1999). Therefore, all operational plans, which are the responsibility of licencees, must adhere to higher level plans. Although no higher level plans have been legally established in the Kootenay Lake TSA, the District Manager may still require that all operational plans are in agreement with the Land Use Plan. The West Kootenay-Boundary Land Use Plan designated the area of the Kaslo Community Forest to be part of an Integrated Resource Management Zone.

> The primary objective in the IRMZ designation is to balance environmental, economic and social benefits from the resource values within the zone. Resource management emphasis may vary throughout this designation, according to the distribution, availability and sensitivity of resource values (Kootenay Inter-Agency Management Committee 1997).

4.3.4 The KCFS' Operational Planning Obligations

Forest Development Plans (FDPs) are the focal point for public input into operational planning decisions. They must be carried out at the landscape level, and detail management objectives, proposed harvesting and road developments for a five-year term. FDPs must be updated and approved annually and, as explained above, they must be consistent with higher level plans (WCEL 1999: 3-2).

Licencees are also obligated to undertake silviculture in cut-over areas. Logging permits are not issued until this component of operational planning is completed and approved. Silviculture Prescriptions (SPs) are stand level plans that describe operational activities and reforestation strategies for a cutblock. They are legally binding until the stand is free growing[15], and must be consistent with the relevant forest development plan. SPs are not required to be advertised for public review (WCEL 1999).

[15] Under the Code, a free growing stand is defined as "a stand of healthy trees of a commercially valuable species, the growth of which is not impeded by competition from plants, shrubs or other trees" (WCEL 1999:A1-5).

In addition to considering higher level plans, FDPs and SPs must meet the following criteria for approval, which are set out in section 41 of the Code.

- the plan or amendment was prepared and submitted in accordance with the Code, the regulations and the standards;
- the District Manager (and designated environment official for joint approval areas), is satisfied that the plan or amendment will adequately manage and conserve the forest resources of the area to which it applies; and,
- the District Manager is satisfied that the plan or amendment adequately addresses the government's economic objectives for the area, including any economic direction for forest resources provided in a higher level plan.

All three criteria must be met simultaneously. (WCEL 1999: 3-17)

4.3.5 Management Rights and Responsibilities

In this section, the implications of this legal framework will be examined through the lens of Pinkerton and Weinstein's (1995) management rights. This will help to determine if the KCFS' focus on ecological sustainability is tied to incentives created by formal or informal management rights, or if other factors are responsible.

As explained in Chapters 1 and 3, CPR theorists hold that the incentives for local management bodies to consider the long term benefits of ecologically sustainable management are stronger when these bodies exercise some decision-making power. The authority to make decisions constitutes a management right. Research indicates that the more complete the set of rights held by an individual or group, the more likely they are to invest in developing rules that define how they exercise their rights (Schlager and Ostrom 1992). Therefore in order to gain a better understanding of the conditions under which a community will engage in sustainable forestry, it is important to examine the rights and responsibilities associated with the Kaslo Community Forest Licence. The basic, legal *(de jure*) rights and responsibilities of all Forest Licence holders in B.C. are as follows. Forest

Licence holders have the right, under cutting permits, to harvest an annual volume of timber within a Timber Supply Area. The responsibilities of these licencees are for operational planning, road building and reforestation (WCEL 1999). These rights and responsibilities are limited compared to those actually involved in resource management.

As will be seen in Table 5, nearly all of the management rights associated with a Forest Licence (FL) in British Columbia are held *de jure* by the provincial government. The exceptions fall under the access rights category and include: membership, exclusion and harvest allocation. Harvesting rights are granted *de jure* to the licence holders under several restrictions (namely the volume of cut, the type of allotment and the duration). The rights of withdrawal conferred to the KCFS are as follows: it is a 15 year, non-replaceable Forest Licence, which confers the right to withdraw a specified volume of timber annually. As defined below, management rights are limited. However, the responsibilities associated with the rights it does possess are substantial and onerous as mentioned above.

The literature on common property resource management suggests that, given the limited scope of *de jure* rights held by the KCFS, the KCFS has few incentives for investing in the long-term viability of the forest resource. One could suppose, then, that it is unlikely that the KCFS will manage for long-term sustainability. The primary research I conducted on the KCFS seems to indicate otherwise. In fact, the members of the KCFS are attempting to plan with long-term sustainability in mind. The question is whether the current focus on ecologically sound forestry is due to other factors in the community that are unrelated to management rights (such as sense of place and the dependence on forest ecosystem health for the provision of services like clean drinking water). Alternatively, the focus on sustainability could be due to the possibility that many of the *de jure* management rights of the MOF are actually held *de facto* by the KCFS. The potential existence of *de facto* rights will be examined in Table 1, and the answer to this question

of incentives for sustainable management will be discussed more at the end of this section.

Table 5 describes and analyses the management rights associated with the Kaslo Community Forest. In this analysis, the management rights associated with the FL can either be held by the MOF or the KCFS. Management rights can be *de jure* or *de facto* (as explained in Chapter 3) and they can also be delegated or asserted. Delegated management rights exist when the MOF transfers responsibility to the KCFS without conferring decision-making authority. Asserted rights are rights that the KCFS is attempting to claim, without any formal or informal recognition of their authority to do so.

Table 5. Management rights associated with the Kaslo Community Forest Licence

Manage-ment Right	MOF	KCFS	Comments
Policy Making and Evaluation: scoping problems; objectives setting; long-range planning; research	*de jure* B.C. Govern-ment / MOF	Asserted by KCFS	The B.C. Government scopes problems and sets objectives through the creation of legislation and policy. The MOF sets policy, conducts research and does long-range planning. The KCFS is attempting to assert all of these rights as well, as is seen in their policy documents. There is a difference between attempting to form policy and actually having the *de facto* right to do so. At this time it is unclear whether they will be able to implement their plans and policy because the provincial government holds the *de jure* rights. Of particular influence on the ability of the KCFS to make policy is the designation that their operating area received in the Kootenay/Boundary Land Use Plan. The KBLUP formally designates the area in which the KCF is situated as an Integrated Resource Management Zone. The meaning of the IRMZ designation is, however, somewhat vague. As was explained above, "The primary objective in the IRMZ designation is to balance environmental, economic and social benefits from the resource values within the zone. Resource management emphasis may vary throughout this designation, according to the distribution, availability and sensitivity of resource values" (Kootenay Inter-Agency Management Committee 1997).

Productive Capacity of the Resource: monitoring; enhancement; restoration	*de jure* MOF	Partially delegated to KCFS	Monitoring: Assessments are required by the Code in a number of areas. Currently the KCFS is working on a water quality monitoring program with funds from Forest Renewal B.C. This may be above and beyond what is required and thus may constitute a *de facto* right in this area. The MOF provides licencees with basic information such as forest cover maps with timber classifications. The KCFS collaborated with two adjacent licencees to pay for terrain stability assessment. The KCFS also did a wildlife inventory and an archeological assessment. The KCFS has exceeded the requirements of the Code in these areas, in an attempt to ensure that its activities do not have negative impacts on local ecological and cultural values. Long-term monitoring is required under a FL. Licencees are responsible for getting the forest to the 'free growing' stage, but they have no legal commitment to the land, and therefore no incentive for long-term planning and monitoring. Many people who live in Kaslo have worked in the forests of the region for a long time and are familiar with the local ecosystems (e.g. trappers, loggers). There is some informal reporting of observations by these individuals. If encouraged and recorded, a *de facto* monitoring system could be established. Enhancement: The responsibility to invest in silviculture such as thinning and fertilizing is delegated to the KCFS until the logged stand is free growing. Restoration: The KCFS is required to develop reforestation strategies for its cutblocks. Once approved by the District Manager, these are legally binding until the stand is free growing (WCEL 1999:3-2). It should be noted, then, that the KCFS may chose to invest in an elevated level of enhancement and restoration.
Harvesting: harvest assessment, planning and monitoring	*de jure* MOF	Delegated to KCFS	The MOF sets the AAC, and oversees the implementation of the Code. However, under the FL, the management functions of harvest assessment and planning are the responsibility of the KCFS and must be articulated in their FDPs and SPs. These plans are subsequently approved by the District Manager. The District Manager will not approve an FDP that does not implement district policy on things such as forest health (i.e. root rot, windthrow etc...). This leaves little room for experimentation and adaptive management on the part of the licencee.

			There is little flexibility in this system for licencees to use alternative logging techniques. However, it depends on the individual responsible for approving the plans, and how much the person drafting them is willing to push to have his or her ideas accepted. Confounding this is the fact that the staff members approving the plans usually have directives from their superiors which often reflect economic objectives.
Compliance with Rules: implementation and enforcement	*de jure* MOF	Partially delegated to the KCFS.	Implementation: At the planning level, all FDPs and SPs must comply with MOF regulations, and the MOF enforces this through the approval process. On the ground, the contractors hired by the KCFS must comply with the SPs, and it is the KCFS that enforces these rules. Enforcement: If contractors contravene the operational plans of the KCFS, it is unlikely that they will be re-hired. The KCFS can hold contractors liable for contraventions if stated in their contracts. Ultimately, though, it is the Board that is liable if, for example, the contractors cannot pay their fines. Overseeing this is the Forest Practices Board which is intended to be an independent public watchdog whose members are appointed by the government and whose staff are government employees. This Board has powers to conduct audits and special investigations of compliance with the Code and the appropriateness of government enforcement (WCEL: 1999: 5-8). The Forest Appeals Commissions is established to hear appeals.(Marchak 1999:72) Also under the category of enforcement is the issue of wood poaching, a common problem in the Kootenays. It is a criminal offense because it constitutes theft from Crown Land. Therefore it is the RCMP that enforces penalties for such infractions.[16]
Access: membership/exclusion; harvest allocation; transfer of membership/ licence		Membership: *de jure* KCFS.	Membership: In the context of this work, 'members' are not only the board of the KCFS, but members of the Kaslo community. The KCFS is acting in trust for the community. The KCFS self-selects its membership (i.e., community-based selection) with the exception of one representative appointed by the Village of Kaslo, and one appointee of the Regional District.

[16] An important aspect of community-based resource management systems is their ability to reduce opportunism (such as theft). Opportunism occurs when individuals feel alienated from the agency (e.g., the MOF) or the organization responsible for managing the resource and when the costs of non-compliance appear to be lower than benefits of compliance. The willingness of a community to comply with rules and to self-police is a sensitive indicator of the success of its management efforts (Pinkerton and Weinstein 1995). It implies the existence of a sense of ownership among community members. The collection of data on this topic was beyond the scope of my study.

		Exclusion: *de jure* KCFS (limited to timber)	Exclusion: The KCFS holds the *de jure* right to choose its membership (i.e., who will be granted logging contracts) and to exclude others from harvesting in their operating area. Under an FL, however, the right to exclude is limited to the extraction of timber resources.
		Allocation: Conditional *de jure* KCFS.	Allocation: The KCFS hires contractors, and thus allocates the harvest benefits to local workers. In this paper I reserve the term allocation to refer to internal allocation (i.e. the allocation of withdrawal rights to contractors within the community). Withdrawal rights are allocated to contractors, but the conditions of that allocation are controlled by the Board.
	Transfer: *de jure* MOF		Transfer: The licence is transferable based on MOF consent. Ostrom (1992) places the right to alienation, or the right to sell, as the highest of all rights. In effect, the KCFS has the limited *de jure* right to sell its withdrawal rights to contractors on a temporary basis. In a sense, the MOF has leased withdrawal rights to the KCFS, and in turn the KCFS re-leases these to local contractors. The KCFS cannot, however, sell the withdrawal rights permanently without the consent of the MOF. The community forest model suggests, however, that the rights held by a community forest organization should be unalienable. That is, a community forest by definition will always be in the hands of the community. Formally, at this time, the MOF is the land owner and holds the right of transfer. In addition, The the MOF reserves the right to transfer withdrawal rights if there is non-performance on the licence (e.g. if the KCFS cannot meet obligations in the face of pests or fire disturbance). In such cases, the District Manager (DM) can award cutting permits to others to harvest in the KCF operating area. The likelihood of this occurring is conditioned by the DM's perception of the repercussions of making unilateral decisions.
Resource use coordination Planning and coordinating use with other users	*de jure* MOF	*de facto* KCFS	Ultimately, the provincial government has the right to determine the land-use designation of crown land. The Kootenay/Boundary Land Use Plan is the planning tool used to coordinate resource use in the Kootenays. As discussed above, the implications of the KBLUP for the KCF are somewhat vague, and have not been legally entrenched through the creation of higher level plans. The KCFS does, however, have *de facto* rights in this area. The KCFS cooperates with adjacent licencees on projects such as an FRB.C. funded terrain stability analysis. KCFS policy also involves activities regarding the use of the forest by non-timber interests such as recreation and education. This is done despite the fact that these rights and responsibilities are not legally conferred to the KCFS through the licence.

Returning Optimal Value: supply planning; product quality and diversity	KCFS holds limited *de jure* rights within 5 year period.	As the KCF develops, it is possible that they will be able to exercise all of these rights *de jure*, limited by the 5 year cut control period. Through 'Cut Control' the MOF controls the planning of wood supply. Licencees are permitted to cut 50% above or below their AAC in any given year, but only 10% above or below over 5 years. A licencee that undercuts by 10% over 5 years risks losing that volume to another licencee. Under the AAC legislation, licencees must cut timber whether or not they have markets for it in processed form. Within the 5 year time frame, the KCFS does possess the right to supply plan and to manage for product quality and diversity. There are discussions at the Board level regarding the viability of establishing a KCFS run log sort yard. At present, Meadow Creek Cedar Ltd has right of first refusal on 50% of the logs cut by the KCFS. This right exists only until the KCFS pays their debt to Meadow Creek Cedar Ltd. The remaining 50% can be sold whenever, and to whomever the KCFS pleases. Theoretically, a log sort yard would enable the KCFS to hold logs until prices are favourable, or until a specialty manufacturer is willing to pay a premium for a certain species or quality of wood. At present, however, the need to pay stumpage in a timely fashion limits this flexibility. Supply planning is also made difficult within the 5 year cut control period because there are considerable delays in the approval system. According to one interviewee, often when the KCFS hires contractors, and the MOF delays approval of operational plans, the contractors find other work. Then when the KCFS gets the permits, they have to wait for the contractors, and by that time, the stumpage may have increased for the species to be targeted, or prices may have dropped. This necessitates a re-evaluation of the viability of the cut block. The ability to return optimal value may become a major issue in the future for the KCFS. Being able to supply manage, and to get a higher price for higher quality products could be key to the success of a community forest. The KCFS may also want to sell at a reduced price within the community for the benefit of small value-added manufacturers. Here, it becomes clear that 'optimal value' encompasses broader community values, not just monetary value.

(Framework from Pinkerton and Weinstein 1995)

According to this analysis, the KCFS holds limited *de jure* and *de facto* management rights in the areas of withdrawal, implementation and enforcement of rules, access, resource-use coordination and supply planning. The activities of the KCFS that

result in rule making, either formal or informal, are in their infancy, as is their relationship with the MOF. The question posed prior to this analysis was whether the KCFS' focus on sustainability was due to management rights conferred on them, or whether it was due to other conditions in the community. I found that the KCFS holds few management rights, either *de facto* or de *jure*. At this stage, the most important factor in the continuance of the community forest is the society's ability to meet the *status quo* requirements of FLs in B.C.

Given the findings of this brief analysis, it seems that the focus of the KCFS on ecological sustainability should not be attributed to incentives created by the *de jure* or *de facto* management rights of the KCFS. It is my contention that the FL at present is an obstacle to sustainable management, and any push in the direction of ecological sustainability is due to other conditions present in the community.

4.4 CURRENT AND FUTURE CHALLENGES OF THE KCFS

4.4.1 Challenges for Policy Development

Many of the past and present difficulties experienced by the KCFS are related to the organizational structure of the Society. It is an evolving and growing organization, whose needs have changed significantly since the days of the Planning Committee when the KCFS first took shape. As previously mentioned, at the time of writing, the Policy Committee of the KCFS was drafting new policies for the organization which include new ideas about Board roles and responsibilities versus the duties of the staff, decisions about the kind of staff that are required, and how to handle conflict of interest.

The Policy Committee challenged itself to develop an effective structure, even if this resulted in a significant departure from the present form of the organization. In other words, people were asked to explore the ideal structure for the organization (Mulkey

1999). A number of constraints to the implementation of an ideal structure were identified by the Committee. These included: current financial capacity to hire appropriate staff; current staff roles, performance, and relationship with the Board, Board personalities and skill sets, and the current committee framework.

4.4.1.1 Volunteer burnout

To date, the Board has been a 'working Board', made up of volunteers who are intimately involved in all decision-making that falls within their authority. This intense level of involvement has caused volunteer burnout, and is not sustainable over the long term. One interviewee said that above all, the Board needs to acknowledge its limitations and contract out the work when necessary. The establishment of an administrative structure for the organization is of critical importance in addressing this problem. There needs to be sufficient staff, and functioning committees to reduce strain on the Board. At the time of writing, the proposal was to create the following positions: Community Forest Administrator, Director of Operations, and Field Technical Workers.

4.4.1.2 Conflicting incentives for forestry workers and professionals to assume positions on the board

Also within the policy realm, recruitment of new Board members and conflict of interest are two associated issues that create dilemmas for the KCFS. For the Board to function effectively, it needs forestry professionals with experience in forest management. But it is not always in the interest of professionals to volunteer their time if this jeopardizes their chances of gaining employment through the KCFS. Policy recommendations state that "A director is not eligible for paid employment with the Community Forest" and, "Directors must avoid real or perceived conflict of interest through arrangements of private affairs and personal conduct" (Kaslo and Area Community Forest Planning Committee 1997). Mulkey (1999:10) explains why conflicts of interest are potentially challenging issues in Kaslo.

> The nature of small, rural communities is that most people have either knowledge of or close relationships with most people in the community. Community members associate with each other through many venues and activities such as schools, business, health services, churches and sports. This situation makes standard corporate conflict of interest guidelines difficult, if not impossible, to implement...

This is a good example of the unique circumstances rural communities face compared to other major licencees.

4.4.1.3 Power imbalances between board members

Perhaps more subtle than the conflict of interest dilemma is the issue of how to level the playing field at the Board table. The KCFS is comprised of people from many different perspectives, and with varying levels of knowledge in different areas. Because of the timber focus of the FL, those with knowledge and experience in conventional forestry tend to be more powerful actors in the Board room. It is possible that when other KCFS initiatives are made priorities, more balance will be achieved. Nevertheless, during the interviews for this research, more than one Board member expressed frustration about having to educate members of the Board who have no forestry training or experience. They felt that valuable time is wasted when Board members must learn about technical issues. But as long as the Board makes decisions on technical issues, the discrepancy in technical knowledge between Board members will create power imbalances. If the structure of the organization is changed, giving the staff more responsibilities and the Board more of a visioning and directing role, then this issue may not cause so much frustration. Also, more organized educational opportunities for Board members could alleviate this tension. Education workshops led by volunteer professionals could be very beneficial for the organization.

4.4.1.4 Balancing community forest objectives in a timber dominated management system

The tension between operational obligations and other community forest values is another challenge facing the KCFS. In the past year, there has been a push to make the community forest operational. Time pressure meant that decisions were made quickly and there wasn't always time to go through the process of reaching consensus on all issues. It has become clear that part of the problem is the structure of the Board. It is a working Board with only one to two full-time employees, and many Board volunteers are over-extended. The organization hopes to rectify this situation once revenues are generated after the first serious season of logging. But through this difficult period of becoming operational "where the rubber hits the road", some Board members felt that community values other than timber were being sacrificed. That is, little energy was being spent on recreation planning or education. The argument put forward was that revenue was required to do these activities, and that the KCFS must log in order to make the money. This situation is likely to be common among community forests in their infancy, especially where start-up funds are limited.

One of the most acute problems in the dilemma described above is that the MOF has treated the KCFS like a regular licencee. As will be discussed in Chapter 6, there are a number of reasons why community forests should be treated differently than other licencees.

4.4.1.5 Appropriate Investment of revenues

An important policy question that will require clarification by KCFS is how to invest the revenue from the community forest in the community. One of the main reasons for setting up the society structure instead of having the municipal government hold the licence was to ensure that the revenue would not be used to cover the costs of, for

example, infrastructure improvements. Policies regarding investment priorities will need to be developed.

4.4.1.6 Connecting value-added businesses to the community forest

The establishment of value-added businesses supplied with wood from the community forest will create more jobs locally. The KCFS is considering putting incentives in place to attract a log homebuilder to Kaslo by servicing an appropriate piece of land owned by the municipality. The KCFS is also investigating the possibility of setting up a log sort yard in the community. This would permit the KCFS to add value to their logs, and to supply local manufacturers and artisans. It would also allow the KCFS to sell logs at a discount to community residents.

4.4.2 Forest Tenure

4.4.2.1 Inadequate tenure arrangement

Three necessary changes to the management rights held by the KCFS were unanimously proposed by all interviewees. The KCFS needs a long-term licence. A fifteen-year non-replaceable licence is inadequate. The District Manager recognizes this. He indicated that the reason the 15 year licence was granted and made non-replaceable was in preparation for the development of a new more appropriate community forest tenure. The KCFS also needs the licence to be area-based. And finally, the AAC is too high given the operating area to ensure the ecological sustainability of its operations. The AAC could be reduced, but the preferred option is for the AAC to remain at 10 000m3 and for the are assigned for management to be increased. This volume is the minimum a licencee can harvest while still retaining its status as a “major licencee”. This status enables the KCFS to have a voice at the table alongside other major licencees when decisions affecting the TSA are made.

4.4.2.2 Gap between the expectations of the provincial government and what is realistically attainable with inadequate tenure arrangement

The desires of the KCFS with regard to their FL are acknowledged by the MOF. During an interview, a senior government official explained that if the KCFS is successful, the licence will be transformed into an area-based long-term licence and will likely become part of the new community forest pilot project. But the current obligations of the FL, coupled with high stumpage rates and low log prices make it very difficult for the KCFS to attain its goals. The up front planning required to develop FDPs and SPs is very expensive in the first two years of operation. This is typical of FLs. However, the KCFS is not a typical licencee. Access to capital was very difficult for it because it did not want to give up decision-making autonomy. It began operations with money from a loan, and now must pay their lenders. There is some disagreement among Board members regarding appropriate sources of funding. Some see the KCFS as a special model, warranting the support of foundations, while others believe that in order to take pride in the success of the community forest, they should not be given special privileges. This raises a very timely question (as new community forests are being established): are they special cases, or should they be treated the same as other licencees? The difference of opinion on this matter depends on whether the management rights of the KCFS are perceived as adequate or not. This will be discussed further in Chapters 5 and 6.

4.4.2.3 Lack of incentives and rewards for alternative logging practices

The demands of the licence along with cash flow problems make it very difficult for the KCFS to invest in alternative, perhaps more sustainable, logging practices. Alternative systems are often more expensive and time consuming. For example, selective logging is an investment in the future with long-term rewards. Unfortunately, the current system offers few, if any, incentives for this kind of management since the Code is based on penalties for non-compliance and not on rewards for good performance.

4.4.3 Public Participation

A well-informed, active community is essential to the longevity of the KCFS. One interviewee expressed concern about what he refers to as a 'culture of criticism'. He related his experience in public consultation where people complain, and then do not follow through on their demands. He said that local people are very sensitive about environmental issues, and sometimes over-react. He sees the community forest as a chance for people to actually be involved in the decision-making. He said that the community forest will provide the physical evidence of management decisions and will demonstrate the results of proper planning and management.

4.4.3.1 Unfamiliarity with forest management among lay people

Another interviewee explained that one of the challenges for community forestry is that many lay people are unfamiliar with forest planning. For example, they may have difficulty understanding spatial representations, and therefore may have problems reading maps. Concern over the visual quality of the area also points to the need for public education. One interviewee stated that good forestry is not always nice to look at. But the public expects viewscapes that appear untouched, and wants ecologically sound forestry at the same time.

Investment in an education and outreach program related to forest ecology and forest management could greatly heighten the quality of public input and participation in general. The KCFS is taking steps in this area. An educational partnership is being developed between the KCFS and the local school. Educating the community is one among many challenges that was recognized as an important role of the KCFS from the outset. It has, however, been difficult to address to date given the more urgent tasks associated with meeting the obligations of the licence.

4.4.3.2 Continual recruitment of new board members

Board member recruitment will continue to be a very important issue for a long time to come. In order to remain legitimate, the KCFS requires a continuous stream of new recruits to the Board. In the future, if the Board does not receive new applicants, it may indicate a loss of community support for the organization. The KCFS would likely dissolve, and a new organization would have to be formed. However, this could result in the loss of the licence. Along with community education, the development of a sense of stewardship and responsibility for the community forest among a large number and range of people in the community is important to ensure the continuance of the community forest.

4.4.4 External Forces

There are numerous external forces that do, or could potentially impact the KCFS, and are beyond their control. Learning to overcome the obstacles presented by these forces is a long-term proposition. Potential challenges include:

- Poor markets;
- A change in provincial government to one that does not support community forestry; or
- A devastating natural disturbance.

4.5 ENABLING CONDITIONS IN KASLO

Based on the research conducted during this case study, the following conditions were found to have enabled the genesis, development and implementation of the KCF. As well, enabling conditions are listed that are deemed to be important for the current management, for the focus on sustainable forest management, and for the future success of the KCF. The information below was drawn from interviews conducted in May and June of 1999, from KCFS documents, and from direct observation.

The genesis of the Kaslo Community Forest required the following conditions:

- Available AAC.
- Desire for local control.
- History of community involvement in resource management.
- Political will on the part of senior government.

The development of the organization and the implementation of the community forest required the following conditions:

- Leadership: Leadership was key in two ways. 1) Two 'sparkplugs' had the vision and the energy to see it through. 2) The enthusiasm and dedication of a core group of people. There may have been individual sparkplugs, but an energetic and dedicated group was required to achieve success in obtaining the licence. The KCFS continues to need a strong core of creative people that are able to contribute volunteer time and are committed to the community forest.
- Community Support: This had to be demonstrated to the MOF in order to obtain the licence. This will become increasingly important in future, and of particular importance will be the support of residents with domestic watershed licences and small operators.
- Available local technical knowledge and skills.
- Financing: Startup funds were critical, but had to be sought with caution in order to maintain autonomy.
- Cooperation with senior government: A good relationship with the local MLA and the MOF office was critical in the initiating stages and continues to be today.
- Willingness of the community (planning committee) to be pragmatically opportunistic. They knew that the FL could not accommodate their vision of a community forest, but they understood the benefits of taking advantage of the opportunity and the potential costs of not taking advantage of it.

Important conditions at the time of writing:

- Clear mission, policy, and organizational Structure: The KCFS was struggling with the fact that the KCF mission statement, policy and organizational structure have not been adequately developed. It has become clear to the Board that these issues must be addressed in order to operate efficiently and effectively now and in the future. *A Policy Development Guide for Community Forests in British Columbia* by Susan Mulkey and Associates provides additional points in this regard.

- Up to date policies are the only ones that work. When a board lives and operates from its policies, the policies will either work or be changed (Mulkey 1999:3).

- Policies must mean what they say. The use of clearly defined and meaningful language will support efficient governing by the board (Mulkey 1999:3).

- The policy framework must be comprehensive (Mulkey 1999:4).

- Policy documents must be located in a central and accessible location. This visibility will go a long way to ensure the transparency necessary for an organization charged with serving the community (Mulkey 1999:4).

- Community-based volunteer boards must be designed to work within the capacities of time and energy of its members. A clear, detailed policy that articulates the roles and responsibilities of the board and directors will enable efficient operation of the Community Forest and ensure its accountability to the community (Mulkey 1999:6).

- Past Organizational Experience: This has been a key asset for the KCFS. Several members have been involved in other natural resource decision-making processes, as well as other community development organizations.
- The ability to learn how to work together: This is essential in a consensus-based, volunteer organization. Evident in Kaslo has been the importance of individual personalities, trust, and good facilitation.
- Human Resources: Knowledge and skills required for board and staff include:
    - Technical forestry knowledge
    - Ecological knowledge
    - Business skills
    - Social activism
    - Creativity, innovation
    - Enthusiasm and commitment
    - Ability to work with others
    - Facilitation skills to balance the group

- Good relationship between Board and staff: There must be a high level of trust between the board and the employees.
- Business Orientation: A Forest License needs to be operated like a business. This has been difficult because of the wholistic nature of the KCFS vision.

- Adaptive Management: In order for the community forest to achieve its goals and to be sustainable, it must be managed adaptively. In order for this to happen, however, the community must accept that the KCFS may make mistakes along the way.

Conditions that led to a focus on sustainable forestry:

- Adjacency: The community forest land base is adjacent to the community As a result, there is a good understanding of the direct relationship between the forest and the community.
- Ability to find common ground: Kaslo is a diverse community with many different values related to the forest. However, it is not so divided that common ground cannot be reached.
- Long-term vision: Participants want local employment, and a livable community. They want children to be able to stay in Kaslo.
- Strong sense of place.

Conditions that will be important for the future success of the KCFS:

- Partnerships and/or cooperation with other licencees both for access to resources and for ecosystem management. This will be important given the fact that the volume and area of the KCF are small. Cooperation with neighboring licencees may be important for the development of value-added businesses (such as log home building). Cooperation with these licencees will also be critical for effective management at the ecosystem and landscape levels.
- Area-based licence.
- Long-term licence.
- Ability to set harvest levels using criteria for ecological sustainability.
- Ability to exclude others, a right currently held *de jure* by the District Manager.
- Adequate timber/area to be financially viable (This may only come through partnering with other local licencees).

5. ANALYSIS AND RESULTS

In this chapter, the enabling conditions for sustainable community forestry will be examined based on the case study findings. To this end, the conditions derived from the literature in Chapter 3 were combined with the 'enabling conditions' identified in the case study of Chapter 4 to formulate a comprehensive set. This set was subsequently presented to a Focus Group in Kaslo on October 28, 1999 (Appendix 3 contains each of the lists of conditions in sequence). The comprehensive set forms the basis of the analysis contained in this chapter which combines the results of this Focus Group with the results of the individual interviews and my observations. Each one of the conditions in the comprehensive set is analyzed in the following sections. The results of this analysis are presented in tables at the end of each section. The results show:

- whether a condition present in the literature reviewed was confirmed by the case study findings;
- whether the condition present in the literature reviewed was refined based on the findings of the case study;
- whether the condition was not present in the literature and is thus a new contribution to the writing on community forestry;
- whether the condition was found to be redundant and adequately addressed in other statements; or
- whether it was found to be of lesser importance.

As was done in the literature review chapter, the conditions that enable sustainable community forestry have been divided into four categories: attributes of the forest, attributes of the community, attributes of the community forest organization, and attributes of the forest tenure.

5.1 ATTRIBUTES OF THE FOREST

When a community seeks to establish a community forest, the conditions contained in this category lay the foundation for the rest of the discussion on sustainable community forestry; they define what is possible. Ecologically sustainable forestry begins with an assessment of what products the forest can actually provide, what level of extraction it can sustain, what restoration is required, and so on (Burda et al. 1997, Hammond 1997). Therefore, when a community is seeking to assess its capacity for community forestry, an assessment of these conditions should be a priority step in the process. It should not be concluded that a particular type or quality of forest is required for successful community forestry. Instead, what is meant here is that any planning regarding what will actually take place in the forest must be informed by an understanding of what is ecologically sustainable. The following conditions speak to this notion.

A generally healthy and productive forest

Sustainable community forestry does not require a completely healthy forest, although a forest that has not been degraded is an asset. Community-based restoration projects can be an important aspect of community forestry, and community development in general (Vodden and Gunter 1998). More important than the health of the forest, is knowledge of the state of the forest ecosystem. Only when reliable information exists on the state of the forest can appropriate management decisions be made. The focus group concurred with this idea, saying that having a healthy forest is an asset, but is subordinate to other conditions.

Reliable, up to date information about the state of the forest

The importance of reliable, up to date information about the ecological state of the forest is central to effective decision-making. This was evident in Kaslo by the felt need to gather more data on the state of the forest than the MOF provided. The Focus Group ranked this condition as the second most important in the 'Attributes of the Forest' category, after having an "area large enough to manage for landscape scale issues and to support a successful timber business".

A forest that is diverse in species, landforms and age classes, and has relatively high productive potential

As with the first two propositions above, solid *information* about the resources that are available for extraction and the rate of extraction that can be sustained is more important than this condition. The significance of the availability of various natural resources depends on the type of community forest envisioned. Drescher (1997a) says, however, that the type of forestry operation envisioned should depend on the availability of natural resources. This ecosystem-based approach requires shifting the focus of forest management from how to extract a certain volume of wood to an emphasis on what should be left behind to maintain ecosystem integrity. Community forestry is often seen as a panacea, a fully integrated management system that could solve all of a community's problems. But such high expectations threaten to place unrealistic demands on forest resources. To avoid this problem, CFOs must work diligently to ensure that reliable and up to date information about the productive capacity of the forest is available and used in planning.

Adequate stock of merchantable timber in a balanced age class distribution to sustain the community forest over the long term

As mentioned in Chapter 3, merchantable timber is only important for community forests operating within a timber-based model. However, by prefacing the statement with

'adequate stock', it can be interpreted as adequate for the given community forest vision -- a very flexible definition. The Focus Group felt that this condition was very important in the case of the KCFS. There has been some concern over whether the KCFS' operating area, and its associated AAC, is substantial enough for the development of a viable timber business. The revenue generated from the sale of 10 000 m3 worth of logs per year is meager when all the costs of logging are taken into account. It is possible that the KCFS' operating area will have to expand or it will have to partner with adjacent licencees in order to be financially viable in the long term. Given the timber orientation of most community forests in B.C., it is likely that the perceived importance of this condition extends beyond Kaslo. It should be noted, however, that definition of "adequate stock" could change substantially were the KCFS to engage in value-added processing.

Reliable and up to date information about the availability of natural resources for commercial purposes

As described above, once again it was found that good information is more important for sustainable community forests than what resources are actually available for use by the community. Knowledge of the available natural resources should form the basis of an economic feasibility study -- an important piece of research for any community seeking to enter into a community forestry initiative.

Spatial Scale: Area large enough to manage for landscape scale issues and to support a successful timber business

As explained in Chapter 3, there is some disagreement in the literature about the ideal scale of a community forest. Betts (1998) believes that a region's *notion* of community is important when considering the geographical scale of a community forest. But, if the scale is smaller than what is needed for a landscape scale of planning, then the smaller operation should strive to take landscape scale issues into consideration when making management decisions. Senior levels of government, especially the MOF, can play a role by coordinating the management activities of adjacent licencees and land

holders. In addition to being able to conduct landscape scale planning, it is desirable in most cases for the scale of a community forest to be large enough to support an economic enterprise.

A number of interviewees supported the idea of small-scale community forests for two reasons. First, a small community forest enabled the KCFS to be experimental in their management without the risk of large-scale harm being done to the landscape. That being said, the KCFS is managing in a risk-averse fashion. Second, a smaller scale community forest fosters a sense of connection, ownership and cognition of the boundaries of the forest. One interviewee put this clearly by saying that he thought people's interest in the forest decreases proportionally with the distance from where they live.

During the Focus Group interview, this condition, which relates directly to the stock of merchantable timber, emerged as the most important in the 'Attributes of the Forest' category. One of the main concerns at the time of the Focus Group interview was that the operating area of the community forest may not be large enough to support a successful timber business given the costs of management, the current stumpage rates and log prices. The KCFS has little to no control over these factors. It was also stated in the Focus Group that the area should be a contiguous unit. This spawned debate, though, as two individuals felt that if the priority of the community forest was to generate revenues from timber harvesting, having a contiguous area may not be so important. Under that scenario, there may be some advantages to managing dispersed, distinct areas. Advantages could include protection from natural disturbance sweeping through the entire area (such as a fire), and being able to harvest more intensively on areas that are not adjacent to the community, where objectives such as visual quality and watershed protection are not perceived to be of great concern. This however, downplays the

importance of managing within the ecological limits of the forest and for multiple values and benefits, both important goals of the KCFS.

Area small enough that users can develop accurate knowledge of boundaries and micro-environments

The focus group explained that knowledge of the boundaries of the community forest and of the forest contained within those boundaries can develop once the community forest is established. Therefore, they rated this condition as secondary. Based on the relevant literature on this topic and interviewees' comments on other conditions related to management unit boundaries, I propose that a balance be sought with respect to the size of the land base. Community forests should comprise a large enough area with an adequate stock of merchantable timber in a balanced age class distribution to sustain the community forest over the long-term. However, the area should be small enough that users (e.g., the KCFS) can develop accurate knowledge of external boundaries and internal micro-environments.

5.1.1 Attributes of the Forest: Category Results

Based on the analysis of the conditions in the 'Attributes of the Forest' category, the conditions above were distilled into those in Table 6. The conditions were re-grouped and prioritized in the left-hand column, based on the findings described above.

Table 6. Results of analysis of attributes of the forest

The Forest	
1. A large enough area with an adequate stock of merchantable timber in a balanced age class distribution to sustain the community forest over the long-term. However, the area should be small enough that users can develop accurate knowledge of external boundaries and internal micro-environments.	Confirmed by findings
2. Reliable up to date information about the state of the forest	Confirmed by findings
3. Reliable up to date information about the availability of natural	Confirmed by

resources for commercial purposes	findings
4. A generally healthy and productive forest ecosystem.	Found to be of lesser importance
5. A forest that is diverse in species, landforms and age classes, and has high potential for providing a diversity of benefits.	Found to be of lesser importance
6. Clearly defined boundaries	Confirmed (but addressed by the tenure condition regarding area-based licence)

5.2 ATTRIBUTES OF THE COMMUNITY

The existence of local forest knowledge

Local knowledge is a very important factor in the development of a community forest. The Focus Group, however, claimed local knowledge to be secondary in importance. They said that both local knowledge and technical skills can be acquired. Kaslo is quite gifted in this area, though. When I raised this point, there was agreement that perception of the relative importance of such conditions depends a great deal on local realities, and that they might take these assets for granted.

Available local technical knowledge and skills

Technical knowledge and skills were required in the Kaslo case in order to put together the application for a Forest Licence and they continue to be required in all stages of development. The availability of these skills within the community meant that external assistance was not required in the application, nor was it required at the time of writing in the operations of the community forest. Being able to tap into a local pool of forestry professionals means that management decisions better reflect the values of people who actually live in the community. Furthermore, the ability of the KCFS to contract to local businesses means that the benefits of the FL accrue to members of the community. Therefore, possessing the asset of local technical knowledge and skills is not just about

having the capacity to get the job done, it is about being able to retain the benefits of the forest in the community.

Commitment to education and training.

Although Kaslo is well endowed with people who possess technical knowledge and skills related to forestry, over time all of the skills required for a community forest may not be present within the community. A commitment to education where knowledge and skills are lacking is very important for community development projects. It is likely that at times it will be necessary to hire expertise from outside the community. This should be done with a commitment to building local capacity by focusing on the transfer of outside expertise to local residents.

A dynamic leader or 'sparkplug' and/or a core group of committed individuals who are motivated, and together, have the necessary skills, knowledge and community acceptance to make a community forest happen.

The Focus Group quickly reached consensus regarding the primacy of this condition in the 'Attributes of the Community' category. They also felt that community enthusiasm and a sense of community are closely related to leadership. Authors cited in Chapter 3 list a number of leadership skills and qualities that may or may not be important in a given case. The style of leadership required for a community forest will depend on a number of different variables such as the cultural norms of the community itself, as well as the developmental phase of the community forest initiative. The appropriate style of leadership for a community forest is the one that is able to gain and maintain the trust of the community and is able to assist the community in attaining its forest management goals.

Available, healthy pool of human resources

The sources cited for this research contain contradictory statements on the issue of human resources. Matakala and Duinker (1991) explain that community forestry is likely

to succeed in places with high numbers of unemployed people. High unemployment, they say, acts as a motivating factor for community forestry. However, a history of high unemployment may signal an unhealthy community plagued with social and health problems. Work in CED has found that these problems may hinder community development efforts[17] (Markey and Vodden 1999). Although it is necessary for a felt need to exist, community forestry endeavours will be facilitated if the community and its members are healthy. The issue of health was deemed to be secondary by the focus group, and so the emphasis will be placed on the availability of human resources.

High level of entrepreneurship and will to become more self-reliant

This condition is very closely linked to that of enthusiasm and motivation for community forestry. If there is a lack of entrepreneurial spirit within a community, then it is possible that the community is not prepared for the implementation of a community forest initiative. The Focus Group agreed with this, and said in fact that the desire for local control was *the most important* condition for community forestry, placing it above all of the other conditions in all categories.

Community highly identified with local forest ecosystems

There is a strong sense of place among many of the people who live in Kaslo. In the last three decades, the Kootenay region drew and continues to draw new residents because of the lifestyle it provides. Power (1996) explains how important identification with local ecosystems will be in shaping new, sustainable local economies. His 'environmental view' of the local economy describes the economic benefits of healthy, aesthetically valuable natural settings which attract people to a place because of desirable social and natural environments. Many people have been attracted to Kaslo for this

[17] This contradiction is similar to the contradiction in the two conditions: "healthy local economy" and "dependence on the resource". That is, the dependence on forestry as the sole employer in a community often destabilizes a community, making its local economy vulnerable to the boom and bust cycle of commodity markets.

reason. A strong identification with local forest ecosystems comes naturally when the environment is a primary reason why people live in a community. I propose that this is a very important condition, especially due to its positive influence on stewardship.

Community enthusiasm for forestry in general and community forestry in particular

It is clear from the number of volunteer hours that the Board members devote to the KCFS that enthusiasm for community forestry is high in Kaslo. Another indicator of enthusiasm is community support. The KCF would not exist today were it not for the enthusiasm and support of community members. Some Board members expressed some concern, however, over their ability to sustain this level of emotional intensity in the long run. The KCFS requires public participation and support from community members at large and especially from small forestry operators to remain a legitimate organization and to attain its wholistic goals. Therefore, mechanisms to foster long-term commitment and support should be developed.

Shared concern regarding the state of forestry.

The Focus Group disagreed over how to define the state of current industrial forestry in B.C. While some believe that there are serious ecological problems resulting from it, others are skeptical about this assertion. I observed, though, that the majority of those involved in the KCFS think that they can do a better job of managing local watersheds than existing forest companies. Given this, the desire for local control is the most meaningful condition on the subject as it implies a shared concern regarding the state of forestry.

Agreement on expectations and objectives for a community forest

In Kaslo, agreement on expectations and objectives for a community forest had to be reached by the Planning Committee in order to write the Forest Licence application. How much of this agreement was negotiated, and how much was already present is

unclear. The Focus Group supported the importance of this condition, and explained that there is agreement on the general direction of the community forest. However, other conversations I had with members of the Board who were absent from the Focus Group indicated otherwise. If this difference in opinion, largely based on the question of ecological sustainability, remains unaddressed, serious problems could arise in the organization. Interestingly, it was added at the Focus Group that expectations and objectives are always changing and evolving. One participant said that the desire to obtain local management rights was in itself the basis of their agreement on expectations and objectives, which does demonstrate some level of consensus on this issue.

Sense of community evidenced by high level of civic engagement

There is a strong sense of community and high level of community pride in Kaslo. This is evidenced by the annual Kaslo May Days festival that draws the majority of the residents to community events. Some of these events have been held annually for over one hundred years. This sense of community, displayed at Kaslo May Days and other such events, is closely linked to place orientation and the level of social capital in the community.

Healthy local economy

The concept of economic health can be interpreted as an enabling condition for CED and community forestry or it can be seen as a result. Many of the aspects of economic health are explicit goals of community forestry, yet it is probable that the presence of these outside the forestry sector and prior to the initiation of a community forest is beneficial. A healthy local economy will take some pressure off the community forest organization to produce high financial returns, thus permitting planners to invest in other aspects of the community forest that are not directly profit generating. This idea was supported by the Focus Group. They added a new condition that community forestry

should not be seen as a panacea for troubled rural communities, that it should be viewed as one 'cog in the wheel' of a diverse local economy.

Members of the community depend on the forest for livelihood or other values of importance to them.

In Kaslo, forestry is an important source of income, accounting for 22% of all employment (Statistics Canada 1996). The livelihoods of those involved in the tourism and hospitality sectors also depend heavily on the scenic beauty of the forests that surround Kaslo. Furthermore, the forests supply drinking water and are critical in the maintenance of soil stability on the steep slopes surrounding the town. Residents also depend on the forest for recreation and ecological amenities such as viewscapes. The Focus Group agreed that the community depends heavily on the forest for a number of reasons. However, when asked if this is an important condition for sustainable community forestry, they explained that for sustainability, what is truly important is some kind of "connection with the forest". The Focus Group's definition of that connection appeared to range from a spiritual identification to an aesthetic appreciation of the landscape in which they live. This notion is related to members of the community being highly identified with local forest ecosystems.

Existence of and potential for markets and customers

At the time of writing, most of the timber harvested has been sold to major industrial licencees and not to local value-added businesses. The result of this scenario is that a significant portion of the economic benefits from the FL is leaving the community. This leakage is largely due to the Board's lack of time and resources to develop a network of local business. The Focus Group indicated that identifying potential markets and customers is very important and the KCFS is hopeful that the community forest will in fact help to expand local markets, especially in the value-added sector. That being said, the capacity to connect to higher value markets in a timely fashion may have a key role to

play in both the economic viability and the ecological sustainability of the operation.[18] However, the present state of the forest industry, with its low value, commodity export orientation, makes it easier for a CFO to sell its logs to the mill of a major licencee than to a small independent manufacturer. The provincial government could play a role in ameliorating this situation by providing financial resources and technical assistance to CFOs attempting to identify and access high value markets. Given the economic difficulties that the KCFS faced in its early stages once can conclude that the ability to access higher-value markets in a timely manner such as value-added manufacturers is what is most important here.

Presence of amenities and knowledge of their capacity to attract residents and business investment

Amenities are important for three reasons:

1. They make the community more comfortable and pleasant for residents.
2. They attract investors, labour and tourists.
3. Infrastructure makes access to the resource, processing facilities and markets possible.

The relative importance of each of these depends on the type of community forest envisioned. Isolation and a lack of physical infrastructure may be weaknesses in some cases, but not if the community sets watershed protection, education and recreation as its priorities. It is important for the KCFS to maintain the visual quality of the local landscape because recreation and to some extent ecotourism, are a part of the vision of the KCFS. Despite this, this condition is secondary in importance to others in the 'Attributes of the Community' category.

Willingness of the community to be pragmatically opportunistic

The FL was not the ideal tenure arrangement for Kaslo, but the residents understood the benefits of taking advantage of the opportunity and the potential costs of

[18] The ability to sell logs at higher prices to specialized value-added manufacturers may mean being able to reduce the volume of harvest required to cover costs and make payements to the Crown.

turning it down. Several interviewees stated that the licence the KCFS holds may not be the appropriate tenure for sustainable community forestry. They believe, however, that once a better tenure is available the organization will be experienced and well prepared. This opinion is shared by local MOF officials. This raises a question about tradeoffs. The community capacity being built in Kaslo is extremely valuable, both for the future well-being of the community and for the potential of the KCF to serve as a model for other communities in the future. Tenure reform advocates (e.g., Burda et al. 1997) pay little attention to the positive implication of capacity building under less than ideal tenure arrangements. At a time when many provincial decision-makers question the ability of communities to manage resources, the creation of positive examples is critical, even if these examples are less than ideal.

5.2.1 Attributes of the Community: Category Results

The analysis above of the 'Attributes of the Community' category has been synthesized in Table 7 and the conditions prioritized into the following list:

Table 7. Results of analysis of attributes of the community

The Community	
1. Strong local desire to assert management rights. Indicators of this include a will within the community to become more self-reliant as well as evidence of entrepreneurial spirit.	Refined by findings
2. A dynamic leader or 'sparkplug' and/or a core group of committed individuals who are motivated and, together, have the necessary skills, knowledge and community acceptance to make a community forest happen.	Confirmed by findings
3. Community enthusiasm for forestry in general and for community forestry in particular. Accompanying this should be mechanisms to transform this enthusiasm into commitment over the long term.	Refined by findings
4. Members of the community are highly identified with local forest ecosystems. This connection is facilitated when people depend on the forest for their livelihood or other variables that are of importance to them (such as drinking water, viewscapes and recreational.	Confirmed by findings

5. A strong sense of community evidenced by a high level of civic engagement. Sense of community is closely linked to a strong place orientation. Also, community spirit and civic engagement are good indicators of the level of social capital. When residents participate actively in their community, cooperative, trusting relationships grow, and leadership capacity is built.	Confirmed by findings
6. Willingness of the community to be pragmatically opportunistic. At present, the ability of community leaders to think strategically about resource management issues is very important in the struggle to gain greater decision-making authority over local resources.	New contribution
7. The existence of local forest knowledge as well as available local technical knowledge and skills. There should also be a commitment to education and training with a focus on local capacity building where knowledge and skills are lacking.	Confirmed by findings
8. Available human resources.	Confirmed by findings
9. Ability to think broadly of community forestry as one aspect of community development.	New contribution
10. Capacity to connect to higher value markets in a timely fashion	Refined by findings (and will be moved to the category that discusses the CFO)
11. Presence of amenities and knowledge of their capacity to attract residents and business investment..	Confirmed by findings
12. Shared concern regarding the state of forestry	Redundant (Addressed in condition regarding local desire to assert management rights.)
13. Presence of amenities and knowledge of their capacity to attract business investment.	Found to be of lesser importance
14. The existence of other CED organizations in the community	Found to be of lesser importance and Redundant (Addressed in part in condition regarding a high level of civic engagement.)

5.3 ATTRIBUTES OF THE COMMUNITY FOREST ORGANIZATION

Appropriate CFO structure that serves to enable effective and accountable management of the community forest in a manner that reflects the values of the community being served.

The Focus Group ranked the creation of an appropriate CFO structure as the most important condition in this category. It was seen as an umbrella for all of the other conditions. Agreement was reached that the structure of the CFO must be evolving, and flexible over time. The idea arose that CFOs may need a different organizational structure for each phase of development of the community forest[19].

A considerable amount of discussion in the Focus Group and previous interviews was centered on the difficulties associated with consensus decision-making. Despite many challenges, the group explained that in a very small community like Kaslo, consensus is the most appropriate decision-making mechanism. It prevents the 'losers' that a majority vote system creates, and mitigates conflict in the community. I propose that a large part of the dislike for the consensus process, as expressed by some interviewees, is due to the ineffective structure of the organization. This structure requires Board members to reach consensus on all decisions, even if they are very technical in nature.

During the hectic period when the KCFS became operational, some interviewees expressed concern over the lack of public outreach. Although the KCFS has a framework for public involvement (e.g., the formation of committees and open house meetings), little attention was paid to such involvement during that phase. This temporarily became a

[19] The first three years of a community forest are dominated by front-end planning. But after that, the Focus Group suggested, a different kind of decisions-making structure might be appropriate.

problem when potential recruits to the Board were not coming forward from the community.

A good relationship between Board and staff is critical to community forest organizations. I observed that although the personalities of the individuals involved can set the tone of this relationship, the structure of the organization has a role to play as well. At the time of writing, the formal relationship between the staff, the Board and the operations committee was unclear (as illustrated in Figure 7 Organizational Structure of the KCFS). This caused frustration and disagreements. Policy that serves to clarify roles and the chain of authority should ameliorate difficulties in this area.

Mechanisms for effective management

Research on the KCFS indicates that mechanisms for effective management include having a clear mission, policy and organizational structure. At the time of writing, the KCFS was struggling because this condition has not been adequately met. As described in Chapter 4, policy development is at the top of the Board's agenda. The Focus Group strongly supported the need for having mechanisms for effective management, as well as for conflict resolution, accountability and adaptability.

On interviewee raised an interesting point concerning adaptability. The community, especially those members of the community not directly involved in the management of the community forest, must accept that using an adaptive management framework means that mistakes may be made along the way. Learning through experimentation is key to adaptive management, and errors may be made in the process.

Prior organizational experience

The importance of prior organizational experience is supported by my findings in Kaslo. Past organizational experience has been a key asset for the Board of the KCFS. Several members have been involved in other consensus-based natural resource decision-

making processes, as well as other community development organizations. This experience has facilitated the ability of Board members to work together. The Focus Group, though, felt that this is a helpful, but secondary condition. They explained that prior organizational experience might actually bias the development of a new organization in favour of the structure of another. This possibility focuses attention on the importance of properly selecting the appropriate CFO structure.

Existence of other CED organizations in the community

Kaslo is well endowed with numerous community service organizations (over 30 in a community of 1000 residents). These include a Chamber of Commerce and several health-related organizations. However, having an active, civicly engaged population that leads to participation and leadership development is what is most important in this regard. This concept is covered by other conditions, and my research findings indicate that this is a secondary condition.

Ability to build and maintain partnerships and collaborative relationships both within and outside the community

The ability to build and maintain partnerships and collaborative relationships is very important to the KCFS for a number of reasons. First, their relationship with the MOF is at an early stage of development. The more cooperation there is between these two institutions, the better. This is especially important now as the establishment of *de facto* management rights depends largely on how trusting this relationship is. There was disagreement among Focus Group members as to whether the MOF is in fact a well-meaning 'partner'. One interviewee suggested that if the MOF were committed to community forestry, it would assign an extension specialist to the KCFS. It was recommended that the KCFS would pay half of the salary for this position, which would result in a strengthening of the partnership between the two organizations.

A second important area for cooperation is between the KCFS and the contractors it hires. The Focus Group highlighted the importance of formal and informal collaboration with local contractors. One member of the Focus Group explained that in the future, the KCFS may ask the local contractors to work for reduced fees in exchange for the guarantee that the KCFS is investing in the community and the future of its children. It should also be noted that collaboration *between* contractors is also beneficial. In Kaslo, a great deal of social capital exists between contractors. For example, the contractors try to hire locally, although they are not obligated to do so. They understand, though, that if they do not hire locally their reputations will be damaged. This understanding assists the KCFS in achieving its goal of creating and maintaining local jobs.

In addition, partnerships and cooperation with other licencees in the TSA will become important in order to achieve landscape scale ecological objectives, as well as to secure wood supply if the landbase and AAC of the community forest remains financially inadequate. Collaboration with neighboring licencees may also become important to the development of value-added businesses.

One final point here: it is critical that the development of formal partnerships only proceed under mutually beneficial conditions. Kretzman and McKnight (1994) warn that seeking partnerships from a position of weakness or disorganization may be detrimental to a community-based organization. Therefore, partnerships should be pursued with caution. The inaugural Board of the KCFS was acutely aware of this issue, and sacrificed some financial security in order to maintain their autonomy.

Participation of a broad spectrum of interests with sufficient overlap of perspective to find common ground

This condition is present in the case study findings. During the initiation of the KCFS, numerous people wanted to be involved. Since the establishment of the

organization, however, it has been difficult for the KCFS to foster active participation in the community forest. The focus group suggested that this is due to the fact that the public trusts the KCFS. It was also explained that this level of trust exists simply because the Board members are well-known residents of the community. In addition to this phenomenon, I hypothesize that trust in the KCFS exists because the process of developing the community forest was grassroots and perceived as legitimate from the beginning.

With respect to the importance of common ground, one interviewee said that everyone involved in the KCFS seemed to share the same general set of values, but that each person had their own way of prioritizing these values. Another person interviewed felt that common ground was attainable because Kaslo, although diverse, is not excessively divided when it comes to forestry and sustainability issues.

An established process for ensuring fair and equitable representations of all local interests

The KCFS acknowledges this condition as being integral to their legitimacy as an organization. As described in Chapter 4, the use of the hybrid sectoral/perspective model is evidence of their commitment to ensuring fair and equitable representation of all local interests. Their recruitment process is being strengthened through new policy development.

The ability to learn how to work together

This is essential in a consensus-based, volunteer organization. The importance of individual personalities, trust, and skilled facilitation is evident in the Kaslo case. The ability to learn how to work together is evidence of social capital. Markey and Vodden (1999) list a number of success factors for CED that they categorize as being the building blocks of social capital at the community level. They include a sense of community, presence of community-based organizations, community participation, planning and

cooperation. Few community forest authors cited for the purposes of developing the list of enabling conditions make reference to the importance of social capital within the community and the CFO. Concepts such as enthusiasm (Matakala and Duinker 1991) and community consensus (Usher et al. 1994) are relevant to the discussion on social capital, but they do not address the idea directly. Ostrom (1999) proposes that collective management of forest resources is more likely when users trust one another to keep promises and relate to one another with reciprocity and when users have learned at least minimal skills of organization through participation in other local associations.

These statements allude to what assists people in working together. Based on my findings, I emphasize the *ability to learn* how to work together on an ongoing basis as critical to CFOs. In the case of the KCFS, with the changing requirements of operating a FL and with a portion of the Board being replaced every year, the ability of the organization to adapt and learn on a continual basis is essential to its success. This learning requires reflection and evaluation of what has and has not worked in the past. Wilson (1997) describes a number of tools and methods for building social capital, such as participatory action research, organizational learning and communicative action. These may provide helpful models for CFOs struggling to work effectively.

Common understanding of forest ecosystems

Ostrom (1999) explains that users should have a shared image of the forest, and how their actions affect each other and the forest. In Kaslo, this understanding appears to be fractured as the Board delves more and more deeply into information about forest ecology and management. One interviewee in the Focus Group said that in the beginning, the members of the KCFS thought that they had a shared understanding of the forest. As planning progresses, however, he sees that there are varied levels of understanding of forest ecosystem form and function. Despite this, there is a basic level of shared understanding in accordance with Ostrom's concept. The need to foster a better common

understanding may grow in significance in the future, which highlights the fact that time and energy must be spent on education.

Access to financial capital

Access to capital was, and continues to be a serious challenge for the KCFS. It is possible that many of the problems relating to policy and tenure that the organization was facing at the time of writing would have been less acute if the organization had access to more funds.

The problem of obtaining startup capital raises a fundamental question regarding access to public financial resources. Who is a legitimate entity in the eyes of lending institutions? Historically in B.C., large forest companies have been seen as most able to transfer benefits from the province's forests to its citizens. They generated the greatest number of jobs in the forest and in processing facilities, and had access to international markets. As explained in Chapter 1, large corporations favoured by the tenure system, were seen as the creators of local community stability. However, recent downturns in the industry show that this stability has not in fact been achieved through this model. Increasingly, forestry analysts in B.C. are concluding that smaller, more diverse forest management operations may be more effective at transferring the most benefits to society in a variety of situations (KCFA 1999). Therefore, it may be important for lending institutions to reevaluate their policies and to consider supporting smaller, community-based organizations.

The challenge of accessing capital also leads to a debate about the nature of CFOs. Are they different from other licencees? Should they be given special consideration, or should they be made to stand alone, to prove their financial viability like other licencees? In Kaslo, some individuals have worked in industrial forestry all of their lives and feel a sense of pride in succeeding without special treatment. But because community forests

like the KCF are new models that are attempting to balance ecological, social and economic objectives, many believe they should be treated differently. Also, it is widely recognized in the Kootenays that the three community forests that have been awarded comprise contentious land, undesirable to forest companies because of the controversy surrounding, for example, community watersheds. Many see the granting of community forests as a strategic move by the MOF to download the headache of logging these lands to communities. Given this, a proposal has been put forward that communities should be compensated for stewarding these forests (KCFA 1999).

For the KCFS, inequities emerge in two ways. First, their operating area is sensitive and therefore an expensive forest in which to operate. This is not reflected in the fees they pay to the government. Second, in attempting to protect local ecosystems and preserve local jobs, the KCFS is undertaking a form of full-cost accounting. They pay for the internal costs of planning, road building and harvesting, but they are also attempting to internalize costs which are often treated as externalities by industrial forest companies. These include the maintenance of water quality, slope stability, biological diversity and local employment. These two issues are economic in nature and key to understanding the need for accessible startup capital for community forest organizations.

Ability to conduct sound business planning

The KCFS has found that even though they are a non-profit society, Forest Licences need to be operated like a business. This has been a challenge because of the wholistic nature of the vision for the KCF. Despite this difficulty, there is widespread support for a business orientation.

Revenue autonomy

Although access to external financing is essential in the initial stages of a community forest, gradual revenue autonomy is desirable to reduce dependence on outside sources.

Ability and commitment to maximize the value of wood and forest products harvested

A common theme in B.C.'s forest policy discussions is "do more with less" (British Columbia 1999). It is thought that the more value that can be added to timber harvested, the less timber will be required to meet the economic needs of companies and communities. Thus, maximizing the value of wood and wood products harvested is important to the transition to more ecologically sustainable forestry. At the time of writing, the system whereby the KCFS would sell high quality wood to value-added manufacturers was not in place. Therefore, wood was being sold to the mills of major licencees. Given the difficulty value-added manufacturers have experienced in accessing wood, it is likely that once manufacturers *are* linked to the community forest, the KCFS will be able to sell its wood for higher prices than it can command from the large mills.

The Focus Group added an interesting twist to this condition. They explained that 'value' in their case, might not equate to monetary value. The KCFS may consider selling their wood at a discount to local manufacturers and artisans in order to give support to community members struggling to create successful businesses. This may not maximize the *monetary* value of wood and forest products to the KCFS, but it could maximize value *to the community.* As a result of this discussion, the enabling condition in the final list has been changed to: ability and commitment to maximize the value *to the community* of wood and forest products harvested.

Low discount rate

The KCFS intends to operate the community forest in perpetuity which implies having a low discount rate. However, the 15 year FL does not promote this as the AAC exceeds the sustainable harvest rate for the operating area. The Focus Group concurred with the importance of a low discount rate as part of having a long-term planning approach, and one member suggested that the concept of discount rates should be part of KCFS policy. The use of low discount rates will encourage high silvicultural investments important for long-term sustainability, while high discount rates drive inappropriate clearcutting and other unsustainable practices. When considering how to promote ecologically sustainable forestry, a focus on long term planning using a low discount rate is essential.

Focus on multiple uses and benefits to be derived

Several people interviewed stressed the importance of planning for multiple uses and benefits. If the CFO well represents the diversity of residents in the community, then this type of planning is key. Matakala and Duinker (1991) believe that a focus on multiple uses and benefits leads to a less timber-based community forest, and promotes a more ecologically sustainable management system.

Benefits of the community forest need to be made evident to community

The Focus Group explained that in order to bolster community support and enthusiasm for the community forest, tangible benefits need to be evident to residents. This supports the comment made in Chapter 4 regarding the need for the KCFS to set out policy about how they will spend the revenues from the forest. This condition does not exist in the literature reviewed, and is therefore a new contribution.

5.3.1Attributes of the Community Forest Organization: Category Results

The analays is above of the 'Attributes of the Community Forest Organization' category has been synthesized in Table 4 and the conditions prioritized into the following list:

Table 8. Results of analysis of attributes of the community forest organization

The Community Forest Organization	
1. Appropriate Community Forest Organization (CFO) structure that serves to enable effective, accountable and adaptable management of the community forest in a manner that reflects the values of the community being served. This should include a mechanism for conflict resolution.	Confirmed by findings
2. Access to financial capital.	Confirmed by findings
3. Ability to conduct sound business planning.	Confirmed by findings
4. Participation of a broad spectrum of interests with sufficient overlap of perspective to find common ground. To facilitate this participation, there must be an established process for ensuring fair and equitable representation of all local interests.	Confirmed by findings
5. Ability of the members of the CFO to learn how to work together to build social capital within the organization.	New Contribution
6. Ability to build and maintain partnerships and collaborative relationships both within and outside the community. This includes relationships with the Ministry of Forests, neighbouring licencees, and local contractors. This should be coupled with a good understanding of how new partnerships will affect the autonomy of the CFO.	Refined by findings
7. Prior organizational experience. Although not necessary, it does facilitate the development of a new organization.	Confirmed by findings
8. Agreement on expectations and objectives for a community forest. To some extent this depends on having a common understanding of the forest, and for sustainable community forestry, a shared understanding of the connection between forest health and community health.	Confirmed by findings
9. Commitment to plan with a low discount rate.	Confirmed by findings
10. Focus on the multiple uses and benefits to be derived from the community forest.	Confirmed by findings

11. Ability and commitment to maximize the value to the community of wood and forest products harvested.	Refined by findings
12. Ability to demonstrate the benefits of the community forest to the community.	New contribution
13. Revenue autonomy.	Confirmed by findings

5.4 ATTRIBUTES OF THE TENURE

Ability to assert management rights on an informal, if not formal basis

As seen in the management rights section of Chapter 4, the KCFS does not hold many rights on a formal basis, and it is questionable what ones they hold on an informal basis. An example of where change should occur is in the area of the ability of the MOF to transfer some of the KCFS' withdrawal rights to the another licencee if the KCFS is unable to meet its cut requirements. This is a situation that could dampen the incentives for sustainable management by the KCFS. This condition is somewhat redundant in light of the next statement, and so will be amalgamated with it.

Meaningful tenure with sufficient duration, security and delegation of authority to encourage community involvement and achieve community-defined objectives.

As explained earlier, volume-based licences promote high rates of discounting the future benefits from the forest, a practice that is likely to lead to unsustainable logging practices. In addition, the valuable knowledge that is gained by working in a specific area of the forest is lost as forest workers move from area to area, rarely returning to manage the same stand. The amount of information and depth of knowledge required for ecologically sustainable forestry is in itself an argument for area-based, long-term licences.

All interviewees strongly supported the need for new area-based licence. In many ways, though, the FL the KCFS holds is *de facto* area-based, with fairly solid boundaries. The volume-based characterization of the FL does, however, have implications for how harvest rates are determined. For this reason the licence must be converted to an area - based licence in order to encourage ecologically sustainable management.

At this point in time, it is difficult to determine what tenure duration, level of security and delegation of authority is sufficient. Based on my research, for the KCFS, a meaningful tenure would be one that included:

- An area-based, long-term license;
- The ability to base their harvest levels on criteria for ecological sustainability (rather than the MOF's AAC);
- Adequate timber/area to be financially viable;
- A stumpage appraisal system that takes into account the sensitive nature of the community forest land base.

Access to a forest close to the managing community

My observations of the KCFS have led me to put more emphasis on the importance of this condition than do other community forestry authors. The community forest land base should either encompass or be immediately adjacent to the community. The result of this scenario is a better understanding of the direct relationship between the health of the forest and the health of the community.

The importance of this stronger condition is evident in many aspects of the KCFS' management. The incentives to maintain ecological functions, such as hydrological services, are extremely strong in Kaslo because all of the community's water is drawn from watersheds within the community forest. Slope stability must be maintained during and after harvesting to protect public safety. The growing tourism sector also depends on ecological amenities for aesthetic reasons as well as recreation opportunities. Furthermore, trap-lines exist within the community forest, so the viability of wildlife

populations must also be preserved. The KCFS has plans for increased education and recreation opportunities within the community forest, two activities that will also benefit from a healthy forest ecosystem. These activities would not be as viable with a less accessible forest.

Political will on the part of the B.C. Government to enable sustainable community forestry

A condition that was not explicitly stated in the literature reviewed is that of political will to make sustainable community forestry a possibility. As Chapter 4 explained, the Kaslo Community Forest would not have come to fruition were it not for the strong support of a local politician. The importance of the political will demonstrated in the genesis of the KCFS should not be underestimated. With the creation of the Ministry of Forests Community Forest Pilot Project, the need for such active support by local government officials (for specific initiatives) may be lessened. But it is certain that political will continue to be important in order to increase the number of community forest initiatives and to maintain support for the existing ones. This is especially true in the face of declining forest resources in B.C.

5.4.1Attributes of the Tenure: Category Results

The analysis above of the 'Attributes of the Tenure' category has been synthesized in Table 5 and prioritized into the following list of conditions:

Table 9. Results of analysis of attributes of the tenure

The Tenure	
1. Political will on the part of the B.C. Government to enable sustainable community forestry.	Refined by findings
2. Meaningful tenure with sufficient duration, security and devolution of management rights either on a formal or informal basis, to encourage community involvement and achieve community-defined objectives. This tenure should include: an area-based, long-term licence with sufficient AAC/geographic area to be financially viable; the right to	Refined by findings

participate in decisions regarding harvest levels and timing of harvest; a stumpage appraisal system that takes into account the sensitive nature of the community forest land base; and positive incentives for stewardship and the use of allow discount rate.	
4. Management of a community forest land base that either encompasses or is directly adjacent to the managing community.	Refined by findings

6. DISCUSSION

CBNRM theory is at an inductive phase where hypotheses are still being generated. The same is true of the study of CED. As shown in this paper, there are so many variables involved in community forestry, that it is difficult to do carefully controlled studies that isolate the variables (i.e., the conditions) to determine which are necessary and which are sufficient. Despite this difficulty, the work of CBNRM and CED authors provides very strong evidence in support of the importance of many of the variables discussed here. This paper adds the experience of the KCFS to both CBNRM and CED literature, creating a broader base from which to generate hypotheses.

The conditions can be seen as predictors of successful community forestry. There is no known single predictor, but a number of authors suggest that the more of these conditions that are present, the more likely a party is to succeed. My findings confirm much of the current thinking in CBNRM and CED. My findings also refined some hypotheses, and generated four new ones.

6.1 NECESSARY AND BENEFICIAL CONDITIONS

The analysis of the literature relevant to community forestry and the findings of the case study of the KCFS permitted me to go one step further and to hypothesize which of the conditions examined are *necessary* for sustainable community forestry in B.C. The following lists are my hypotheses derived from the literature review, the case study, and the analysis. The 'attributes of the forest' category has been eliminated. Subsequent to the

analysis in Chapter 6, I have concluded that the critical conditions in this category are actually questions of forest tenure and the organizational capacity of the CFO.

14 Conditions that are necessary to the development of sustainable community forestry in B.C.

The Community

1. Strong local desire to assert management rights. Indicators of this include a will within the community to become more self-reliant as well as evidence of entrepreneurial spirit.
2. A dynamic leader or 'sparkplug' and/or a core group of committed individuals who are motivated and, together, have the necessary skills, knowledge and community acceptance to make a community forest happen.
3. Community enthusiasm for forestry in general and for community forestry in particular. Accompanying this should be mechanisms to transform this enthusiasm into commitment over the long term.

The Community Forest Organization

4. Appropriate Community Forest Organization (CFO) structure that serves to enable effective, accountable and adaptable management of the community forest in a manner that reflects the values of the community being served. This should include a mechanism for conflict resolution.
5. Access to financial capital.
6. Ability to conduct sound business planning.
7. Participation of a broad spectrum of interests with sufficient overlap of perspective to find common ground. To facilitate this participation, there must be an established process for ensuring fair and equitable representation of all local interests.
8. Ability of the members of the CFO to learn how to work together to build social capital within the organization.
9. Ability to build and maintain partnerships and collaborative relationships both within and outside the community. This includes relationships with the Ministry of Forests, neighbouring licencees, and local contractors. This should be coupled with a good understanding of how new partnerships will affect the autonomy of the CFO.
10. Commitment to long-term planning.

The Tenure

11. Political will on the part of the B.C. Government to enable sustainable community forestry.
12. Meaningful tenure with sufficient duration, security and devolution of management rights either on a formal or informal basis, to encourage community involvement and

achieve community-defined objectives. This tenure should include: an area-based, long-term licence with sufficient AAC/geographic area to be financially viable; the right to participate in decisions regarding harvest levels and timing of harvest; a stumpage appraisal system that takes into account the sensitive nature of the community forest land base; and positive incentives for stewardship and the use of a low discount rate.

13. A large enough area with an adequate stock of merchantable timber in a balanced age class distribution to sustain the community forest over the long-term. However, the area should be small enough that users can develop accurate knowledge of external boundaries and internal micro-environments.
14. The community forest land base either encompasses or is directly adjacent to the managing community.

The next set of conditions are hypothesized to be secondary to those above, but still extremely beneficial to the development of sustainable community forestry.

15 Conditions that are beneficial to the development of sustainable community forestry in B.C.

The Community

1. Members of the community are highly identified with local forest ecosystems. This connection is facilitated when people depend on the forest for their livelihood or other variables that are of importance to them (such as drinking water, viewscapes and recreational opportunities).
2. A strong sense of community evidenced by a high level of civic engagement. Sense of community is closely linked to a strong place orientation. Also, community spirit and civic engagement are good indicators of the level of social capital. When residents participate actively in their community, cooperative, trusting relationships grow, and leadership capacity is built.
3. Willingness of the community to be pragmatically opportunistic. The ability of community leaders to think strategically about resource management issues is very important in the struggle to gain greater decision-making authority over local resources.
4. The existence of local forest knowledge as well as available local technical knowledge and skills. There should also be a commitment to education and training with a focus on local capacity building where knowledge and skills are lacking.
5. Available human resources.
6. Ability to think broadly of community forestry as one aspect of community development.

The Community Forest Organization

7. Reliable up to date information about the state of the forest.
8. Reliable up to date information about the availability of natural resources for commercial purposes.
9. Prior organizational experience. Although not necessary, it does facilitate the development of a new organization.
10. Agreement on expectations and objectives for a community forest. To some extent this depends on having a common understanding of the forest, and for sustainable community forestry, a shared understanding of the connection between forest health and community health.
11. Focus on the multiple uses and benefits to be derived from the community forest.
12. Ability and commitment to maximize the value to the community of wood and forest products harvested.
13. Ability to demonstrate the benefits of the community forest to the community.
14. Capacity to connect to higher value markets in a timely fashion.
15. Revenue autonomy.

6.2 CONDITIONS LIKELY TO LEAD TO ECOLOGICALLY SUSTAINABLE RESOURCE USE

It is important to reiterate that community forestry does not necessarily lead to ecologically sustainable forestry. As stated in Chapter 2 community forestry is likely to lead to ecologically sustainable practices where certain conditions are in place. The lists of necessary and beneficial conditions presented above relate to the social, economic and ecological aspects of community forest management. Some of them, however, create stronger incentives for maintaining ecosystem health. Based on the findings of this research, I propose that ecologically sustainable resource use is more likely to occur in situations where the following conditions are present:

11 Conditions likely to lead to ecologically sustainable resource use

1. The forest is directly adjacent to the community.
2. The community forest organization takes a long term approach to planning with a low discount rate.

3. There is local knowledge of the resource with an understanding of the connection between forest health and community health.
4. The community depends on the resource for livelihoods or other variables of importance to community members.
5. There is participation of a broad spectrum of interests with sufficient overlap of perspectives to find common ground.
6. There is a commitment to focus on the multiple uses and benefits to be derived from the forest.
7. There is an ability and commitment to maximize the value to the community of the wood and forest products harvested.
8. Sufficient startup funds are easily accessible.
9. The tenure is area-based and long-term in nature.
10. The community forest organization holds the right to participate in decisions regarding harvest levels and timing of harvest and to use ecological criteria in the decision-making process.
11. The community forest organization employs mechanisms for adaptive management.

6.3 THE INTERRELATION BETWEEN CONDITIONS

The case study of the KCFS affords one more important insight. I observed that while each of the enabling conditions may be important, they are insufficient on their own and are in fact interrelated. Many of the most important conditions actually depend on the presence or absence of others. The details of this interdependence are likely to be different for each community forest. In the context of the KCFS, some of the most critical conditions are interrelated and can be grouped into three different headings: ecological sustainability; leadership; and tenure.

6.3.1 Ecological Sustainability

In the case of the KCFS, I found that having a community forest licence adjacent to the community to be the most striking incentive for managing in an ecologically sustainable manner. Dependence on the forest for ecological services such as the provision of drinking water and the maintenance of stable slopes reveals the direct

connection between the community and forest. Adjacency may be a very strong incentive for ecologically responsible action, but it is not sufficient by itself. Ultimately, members of the community (or at least the members of the community forest organization) must share a common understanding of the forest. This means having some understanding of the ecological limits of human intervention in the forest. Developing this understanding requires having up to date and reliable information about the state of the forest, and the availability of natural resources within it. But even sharing a good understanding of the capacity of local forest ecosystems is insufficient when conditions such as access to an area-based, long-term forest tenure and having the right to participate in decisions regarding harvest levels and timing of harvest are absent.

6.3.2 Leadership

The presence of effective leadership in community forest initiatives is absolutely essential. In an organization such as the KCFS, leadership does not rest in one individual, but in the team of volunteers who make up the board. The enthusiasm and commitment of these individuals are what drives the organization. But this enthusiasm and commitment must exist in the community at large as well. In order for the Board of the KCFS to function well in the long-term, new, successive Board members are required. The demands placed on the volunteer board are great, and as discussed in Chapter 4, burnout is a potential hazard. For this reason, it is important to have new, talented and committed members of the community stepping forward to join the Board. Conditions that may motivate this participation include:

- The ability to demonstrate the benefits of the community forest to the community;
- A strong sense of community; and
- A commitment to education and training with a focus on local capacity building.

However, the knowledge that the board must devote so much time and energy is a disincentive for potential volunteers. This demonstrates the link between leadership,

community enthusiasm and commitment, and the structure of the managing organization. The new policies that the KCFS was working on aim to reduce the burden on Board members by restructuring the organization and placing more responsibility in the hands of employees. But as explained in Chapter 4, the lack of startup funds and the large expenses involved in planning and getting a forestry operation running, made it impossible to hire adequate staff. The issue of access to capital is also linked to the conditions regarding forest tenure.

6.3.3 Tenure

Once the KCFS was granted a forest licence, money and time where two major hurdles. The organization had great difficulty securing financing for their Forest Licence, and once they were successful, the budget for start-up was insufficient to hire adequate staff. If sufficient start-up capital was made available to the KCFS, meeting their operational planning obligations and hiring adequate staff would not have been so difficult. On the other hand, if they had fewer obligations to the MOF (i.e., a more flexible arrangement that did not entail the 'log it or lose it' cut control policy), then having the funds in the early stages might not have been so critical.

There are a number of scenarios, related to tenure and the role of the MOF that could improve the time and money dilemma. In the planning stages, the KCFS would have benefited from greater access to capital, *or* more flexibility from the MOF including a longer planning period. For long-term economic and ecological viability, the KCFS will require a reduced AAC and lower payments to the Crown *or* better log prices. However, this scenario would cause the KCFS to lose its status as a major licencee. Given this, the KCFS should be granted a larger forest area to accommodate the current AAC. Another key variable in the tenure/financial viability equation is the stumpage appraisal system. As discussed in Chapter 5, community forests such as the KCF face major hurdles

because of the sensitive nature of their operating areas. Yet at present the appraisal system does not recognize these challenges.

These three examples relating to ecological sustainability, leadership, and tenure, illustrate the interdependence of the conditions for sustainable community forestry. The importance of access to capital and human resources is very much tied to whether or not there is a meaningful community forest tenure arrangement. Although the question of finances is always relevant in natural resource management, the ability of community-based management organizations to handle the question is ameliorated when they are granted an appropriate tenure arrangement.

Communities currently engaged in community forestry as well as those interested in doing so should keep this inter-play of factors in mind. The elements of a successful community forestry do not exist in isolation. Success in community forestry is likely to occur where there is a synergy of a number of necessary and beneficial conditions.

7. CONCLUSION

This research sought to shed light on what is required to make sustainable community forestry a success. What conditions do B.C. communities need to have in place in order to make sustainable community forestry work? This paper attempted to answer these broad questions by posing the following research questions:

1. What conditions for sustainable community forestry are presented in the relevant literature?
2. How does a B.C. case study inform our understanding of the enabling conditions for sustainable community forestry?

These questions were answered by first assembling a list of enabling conditions as proposed in the literature, and then conducting a case study of the Kaslo and District Community Forest Society (KCFS). The KCFS was chosen because of its progressive goals and because it had three years of experience from which to draw information. The single case study method was chosen because it provided a depth and richness of information that could not be gathered from a broader survey of multiple cases.

The literature review contained in Chapter 3 showed that the literature on and related to community forestry contains numerous propositions about the conditions that enable sustainable community forestry. The literature review also revealed that there is a great deal of agreement between CED and CBNRM literature. These bodies of literature have rarely been combined[20], and it is evident that the hypotheses of each strongly support those of the other.

That being said, it was found that the CED literature discusses the social aspects of community initiatives in much greater detail than the literature on CBNRM. My findings show that factors such as community will, enthusiasm, sense of community, and

[20] Vodden (1999) also combines and compares CED and co-management literature.

leadership skills are extremely important when a community engages in an initiative as challenging as community forestry. To date, the majority of literature on community forestry in Canada has overlooked these elements. This research has begun to illuminate their importance, and I encourage those working in community forestry to focus future research on these topics.

Chapter 3 also attempted to include literature on sustainable forestry in the development of a list of enabling conditions. I found, however, that that literature did not contribute significantly. This is because the sustainable forestry literature focuses on good forestry practices, but pays little attention to what might motivate a community (or an individual) to engage in such practices. Although it is very important to continue to improve our understanding of what forest management practices will maintain healthy forest ecosystems, it is equally important to know how to create incentives for communities to utilize such practices. Based on the findings of my research, I hypothesized in Chapter 6 which conditions are likely to provide these incentives.

The case study of the KCFS informed our understanding of the enabling conditions for sustainable community forestry in three ways:

1. It grounded the discussion of community forestry in the B.C. context, making it more relevant to communities in this province.
2. It permitted me to confirm, refine, or discard the propositions made in the literature, and led to the detection of a few conditions not previously identified.
3. It enabled me to make hypotheses regarding which of the enabling conditions are necessary for sustainable community forestry, and which ones are secondary, but still beneficial. In addition, I also hypothesize which conditions are particularly important for ecological sustainability in community forest management

This research also made the following new contributions to the literature on community forestry:

Sustainable community forestry is more likely to succeed when:

1. The members of the CFO possess the ability to learn how to work together to build social capital within the organization.

2. The community is willing to be pragmatically opportunistic.
3. The community is able to think broadly of community forestry as one aspect of community development.
4. The CFO can demonstrate the benefits of the community forest to the community.

Social capital is a concept that is discussed in both the common property resource literature and CED literature. However, it does not appear in the literature on community forestry. The ability to learn how to work together is extremely important for community-based resource management organizations. This is because the success of these institutions depends in large part on their organizational capacity, which in turn depends on the quality of the personal relationships between the individuals involved. Consequently, it is very important for CFOs to focus on the continuous development of good working relationships.

As explained in section 5.2, the development of the KCFS was partly due to the community's desire to be pragmatically opportunistic. Although the tenure arrangement was less than ideal, it was understood that the licence was an opportunity that the community should not pass up. The need to build community capacity for natural resource management, combined with the need to develop examples of community forestry at work, emphasizes the importance of this condition at this time.

The ability to think of community forestry as one aspect of a broader community development strategy is especially important in today's uncertain economic climate. While common property resource scholars emphasize the importance of a community's dependence on a resource, CED authors suggest that economies are healthier when they are diversified. The ability to see community forestry as one cog in the wheel of community development is likely to lead a more resilient community.

Finally, the importance of a CFO's ability to demonstrate the benefits of their management to members of the community was identified as a new contribution to the

community forestry literature. Ostrom's (1992) design principle #2: proportional equivalence between benefits and costs, should not be confused with this condition. In the common property resources literature, the discussion of benefits focuses on the 'users' of the resources. In the case of the KCFS, all members of the community are not considered to be 'users' of the resource. Essentially, the users of the resource are the Society and the contractors it hires. But in order to bolster community support and enthusiasm for community forestry, the non-users need to see that the management of the community forest is a benefit to the community as a whole.

Among the conditions previously identified by the literature are those that lead to a common understanding of the ecological limits of forest ecosystems, those that foster enthusiasm and commitment and the development of new leadership in the community forest organization, and those that lead to a meaningful sharing of decision-making authority between the community and the MOF. I also found that many of the important conditions are interrelated and that success is likely where there is synergy among the conditions.

This research infers that the conditions for successful community forestry are different from those for industrial forestry. This must be acknowledged, and the relationship between the MOF and the community-based management organization structured to reflect this difference. At present the KCFS does not have sufficient management rights, either *de facto* or *de jure*, to engage in long-term, ecologically sustainable community forestry. Sustainable community forestry may be more costly than industrial forestry at the outset. In the long term, it is likely to be much less expensive. Sustainable community forestry embodies the notion of full-cost accounting where both monetary and non-monetary costs and benefits are considered. This means that it does not externalize its costs. Added to this is the fact that many CFOs manage contentious areas that are expensive in which to operate. These are areas that have historically been

unattractive to large forestry companies for the reasons stated above. The MOF must acknowledge this, and tailor community forest tenures to suit the difficult conditions.

The creation of an alternative appraisal system (i.e., stumpage system) for community forests, the use of ecological criteria and sharing the decision-making rights regarding harvest levels, and an allowance for long-term planning time-lines, are among the actions that the MOF could take to reward CFOs for their role as stewards. The provincial government could also work with lending agencies to make financing more readily available to these initiatives.

This research will be useful for communities, governments, and scholars. Although not a set recipe for success, the necessary and beneficial conditions for sustainable community forestry proposed here can serve several purposes. Communities interested in pursuing community forestry can use them as a capacity assessment framework. They can also be used by existing CFOs to evaluate their own situation and to gain a better understanding of the factors, both internal and external, that may be influencing the success or failure of their endeavours. Governments and lending agencies can use them to better understand the requirements of the community forest model. Finally, this research makes a valuable contribution to the fields of CBNRM and CED. Future research should seek to test the hypotheses presented here in order to further refine and deepen our understanding of community forestry.

8. APPENDICES

Appendix 1. Interview Questions[21]

Introductory Questions:

1. How long have you lived in this area?
2. When did you become involved in the community forest?
3. What are the priorities of the KCFS? How would you rank them?
4. Where does ecological sustainability fit in? Why do you think it is important? How did it get to be such a high priority for the Board and the community as a whole?
5. Are there conflicting ideas about how the FL should be managed? Is there general agreement within the community concerning its relationship with the forest and the expectations of that relationship?

Main Questions:

1. What were the key factors in the development of the KCF?
2. What are the most important factors now?
3. What barriers impeded the development of the KCF?
4. What are the most significant challenges now?
5. How is the KCFS working to overcome these?
6. What requirements do you think are critical for the success of community forestry?
7. If you could give one piece of advice to other communities interested in community forestry, what would it be?

Secondary Questions:

1. Community Forest Planning

- When did you first hear of the idea of establishing a community forest in Kaslo?
- What motivated the residents of Kaslo to pursue community forestry?
- Was there a sense of crisis in the community with regard to local ecological, social or economic health?
- What was the reaction in your community when the MOF invited you to apply for a Forest Licence (FL)?
- Did the terms of the FL differ from your community's vision of a community forest? If so, how?
- What types of leaders did you need to get going? What types of leaders do you need to keep things going?

2. Current Management

- What management responsibilities does the KCFS hold?
- What management responsibilities does the Ministry of Forests hold?

[21] These questions were used as a guide for open conversations with interviewees.

- Do you see Kaslo's management responsibilities changing in the future? Would you like them to change?
- Are there opportunities for local residents to have input into the management decisions made by the KCFS?
- What is the planning horizon for the Board?
- What steps have been made to develop value-added manufacturing locally?
- Is the KCFS developing on the path you imagined it would? How is it different?
- What benefits are presently being incurred from the KCF?
- What benefits do you see in the future?

3. General

- How would you rate your community's sense of identity and culture?
- Do you think local residents have a strong sense of place? How do you know?
- How would you rate the health of the local economy? (Poor Good Excellent Uncertain)
- How would you rate the level of informal activity? (Low Medium High Uncertain)
- Do local people depend on the forest for their livelihoods? Are there other values of importance to residents?
- How would you rate the level of local control over the economy? (Low Medium High Uncertain)
- How would you rate the employment level in your community? (Low Medium High Uncertain)

Appendix 2. Complete List of All Enabling Conditions For Sustainable Community Forestry Found in the Literature Reviewed.

ATTRIBUTES OF THE FOREST

Ecosystem health

- Ecosystem health (Markey and Vodden 1999).
- Reliable and valid information about the general condition of the forest. (Ostrom 1999).
- Feasible improvement (Ostrom 1999).
- Site quality (i.e., soil productivity) (Matakala and Duinker 1991).

Availability of consumptive and non-consumptive natural resources for commercial use

- Availability of natural resources - commercial and non-commercial (Markey and Vodden 1999).
- Predictability: availability of forest products (Ostrom 1999).
- Balance of all age classes (Matakala and Duinker 1991).
- Forest type by volume (Matakala and Duinker 1991).
- A forest that is diverse in species, landforms, and age classes, and has relatively high productive potential (The 'productivity' aspect of this criteria relates only to community forests with a proposed timber harvesting orientation) (Betts 1998).
- Forest should have inherently high potential for providing a diversity of benefits (Cortex1996).
- Presence of ecologically-based amenities (Markey and Vodden 1999).

Spatial Scale of the management unit

- Landscape scale of planning (Pinkerton 1998).
- Clearly defined boundaries (Ostrom 1992).
- Spatial Extent: small enough that users can develop accurate knowledge of external boundaries and internal micro-environments. (Ostrom1999).
- Land-base should be large enough to support a balance forest-age class structure and ideally, should have good site quality and a substantial amount of good quality timber (Cortex1996).

ATTRIBUTES OF THE COMMUNITY

Human

Skills and Knowledge

- Education and skills (Markey and Vodden 1999).
- Forestry orientation in the labour force (Matakala and Duinker 1991).
- Development of local skills and capacity (Pinkerton 1998).
- Availability of technical services (Matakala and Duinker 1991).
- The technical advice and guidance of forestry institutions (Betts 1998).
- The existence of local forest knowledge. Such knowledge might include a locally assembled data base characterizing significant landscape feature, or might entail a well established working knowledge of the local area held by naturalists, hunter, or indigenous people. (Betts 1998).

Leadership

- Clear and appropriate leadership (Markey and Vodden 1999).
- A dynamic leader or 'sparkplug' (often an elected official, e.g., the mayor) and /or a core group of committed individuals who are motivated and, together, have the necessary skills, know-how and community acceptance (Vodden 1999).
- Entrepreneurial spirit (Vodden1999).
- Development of vision, leadership and political will (Pinkerton 1998).
- The ability of leadership to call upon traditional local values (Pinkerton 1998).
- The ability of local leaders and the community to work together and mobilize broad-based support. (Markey and Vodden 1999).
- Commitment to fostering leadership skills on an ongoing basis (Markey and Vodden 1999).
-

Labour force

- Population distribution and labour force (Matakala and Duinker 1991).
- Health, age, time (Markey and Vodden 1999).
- High unemployment levels (Matakala and Duinker 1991).

Entrepreneurship

- Local entrepreneurial desire to diversify forest products (both consumptive and non-consumptive). (Betts 1998) .

- Self reliance: A realization that if things are going to happen community members and leaders have to do it themselves (Markey and Vodden 1999).

Place Orientation

- Highly identified with their fishing place (Pinkerton and Weinstein 95).
- The existence of local forest knowledge. Such knowledge might include a locally assembled data base characterizing significant landscape feature, or might entail a well established working knowledge of the local area held by naturalists, hunter, or indigenous people (Betts 1998).

Social

Community enthusiasm and motivation for community forestry

- Enthusiasm of Community and entrepreneurship (Matakala and Duinker 1991)
- Broad-based public participation and support (Markey and Vodden 1999)
- Community enthusiasm for forestry in general and community forestry in particular (Betts 1998).
- A crisis or major concern motivating local leaders and citizens to act (a felt need). (Markey and Vodden 1999)
- Community agreement on expectations and objectives for a community forest and environmental and resource management values. (Cortex 1996)

Sense of community

- Sense of community (Markey and Vodden 1999).
- Sense of community identity, history and culture (Vodden1999).
- Civic Engagement/citizenship (Markey and Vodden 1999).
- Range of community organizations (Markey and Vodden 1999).
- Volunteer time (Markey and Vodden 1999).

Economic

Economic Health

- Economic Health of the community (diversity, adaptability, health of local businesses, sustainability, informal economic activity) (Markey and Vodden 1999).
- The ability to adapt, innovate and be proactive in the face of changing circumstances (Vodden 1999)

Dependence on the resource

- High dependence on fishery (Pinkerton and Weinstein 1995).

- Salience: Users dependent on forest for livelihood or other variables of importance to them (Ostrom 1999).
- Highly vulnerable to non-sustainable use. (Pinkerton and Weinstein 1995).
- Distribution of interests (Users with high economic and political assets are similarly affected by current patterns of use) Ostrom 1999).

Existing Markets and Customers

- Existence of and potential for markets and customers. (Matakala and Duinker 1991).

Amenities

- Amenities (Matakala and Duinker 1991).
- Cultural and service amenities (Markey and Vodden 1999).
- Access (road, rail etc...) (Matakala and Duinker 1991).
- Location (Markey and Vodden 1999).
- Infrastructure (Markey and Vodden 1999).

ATTRIBUTES OF THE COMMUNITY FOREST ORGANIZATION

Organizational Framework

- The appropriate structure of the CFO should be selected which serves to enable effective and accountable management of the community forest in a manner that reflects the values of the community being served(Cortex 1996).
- The CFO incorporates a framework for public involvement (Cortex 1996).

Planning and Management

- Conflict resolution mechanisms (Ostrom 1992).
- Clear mission. The arrangement should have a clearly articulated mission to achieve the three goals of community forestry (Usher et al. 1994 in Betts 1998).
- An explicit statement of forestry objectives. This statement can then later be translated into a specific management plan (Betts 1998).
- Mechanism for effective management (i.e. ability to make, monitor and enforce rules) (Pinkerton and Weinstein 1995).
- Mechanisms for adaptiveness (Pinkerton and Weinstein 1995).
- Mechanisms for accountability (Pinkerton and Weinstein 1995).
- Graduated Sanctions (Ostrom 1992).
- Monitoring: monitors are accountable to, or are users (Ostrom 1992).

- The involvement of a broad range of interests which might serve as 'watch dogs' over forest management. These interests include timber manager, fisheries managers, tourism outfitters, hunters, naturalists, and educators (Harvey 1994). Such interest diversity will ensure that the forest is managed for multiple values (Betts 1998).

Organizational experience

- Prior organizational experience (Ostrom 1999).
- Local institutions relevant to community forestry (Matakala and Duinker 1991).
- Presence of a range of community organizations (Vodden and Markey 1999).
- CED Experience (Vodden 1999).

Partnerships and Collaboration

- Partnerships should only proceed where it is mutually beneficial. (Markey and Vodden 1999).
- Ability to build and maintain partnerships and communication links (Bryant forthcoming in Markey and Vodden 1999).

Participation

- Willing to invest resources in management if they have a real voice in decision making (Pinkerton and Weinstein 1995).
- Broad-based public participation and support (Markey and Vodden 1999).
- Meaningful inclusion of broad spectrum of community interests in decision-making structures and process (Vodden 1999).
- Willingness and ability to collaborate . May involve a regional approach among neighboring communities (Vodden 1999).
- Mechanism for equitable representation of groups (Pinkerton and Weinstein 1995).
- Is government willing to 'level the playing field' among actors with conflicting interests enough so that common interests can emerge? (Pinkerton and Weinstein 1995).
- Common Understanding: Users have shared image of the forest and how their actions affect each other and the forest (Ostrom 1999).
- Do interests overlap sufficiently to find common ground? (Pinkerton and Weinstein 1995).
- Are there highly incompatible hidden agendas driving the most important actors? (Pinkerton and Weinstein 1995).
- A partnership/lead agency which encourages broad community participation. This ensures that the community forest does not end up serving a few exclusive community interests. (Betts 1998).

- A proposed process for ensuring fair and equitable representation of all local groups (Harvey 1994 in Betts 1998).

Financing and business planning

- Access to capital (Markey and Vodden 1999).
- The potential to diversify forest products (both consumptive and non-consumptive) (Betts 1998).
- Meaningful revenue autonomy. The arrangement should have sufficient revenue sources and autonomy that it can effectively achieve its objectives (Usher et al. 1994).
- The proven ability to achieve outside funding for forestry projects (Betts 1998).
- The retention or recycling of funds to the forest to pay for management. While community forests may be dependent on government funding in their initial stages, it is crucial that they become independent in terms of harvesting operations and silviculture. (Betts 1998).
- Available internal and external funding/financing mechanisms. Of critical importance is an initial investment of the community's own resources, including its own money. (Vodden 1999).
- Ability to develop a sound and realistic business plan (Vodden1999) related to ability to achieve outside funding and related to human resources.
- Commitment within the community to maximize the value of forest products harvested (i.e. a focus on value-added manufacturing) (Cortex 1996, Betts 1998).
- Commitment to a long-term approach (willingness and ability to sustain development efforts over the long-term) (Vodden 1999).

Ecological sustainability

- Local ecological, economic and social incentives to manage for sustainability, and a clear notion of the connection between forest health and community health. (Betts 1998).
- The existence of local forest knowledge. Such knowledge might include a locally assembled data base characterizing significant landscape feature, or might entail a well established working knowledge of the local area held by naturalists, hunter, or indigenous people (Betts 1998).
- Planning combines traditional local knowledge and values and the science of landscape ecology (Pinkerton 1998).
- A local wholistic management plan (results from personal identification with territory) (Pinkerton 1998).
- The definition of sustainability involves small-scale disturbance by low impact logging at the patch level, or partial removal through thinning (Pinkerton 1998).

- Environmental stewardship (Markey and Vodden 1999).
- Sufficiently low discount rate (Ostrom 1998).
- Commitment to a long-term approach (willingness and ability to sustain development efforts over the long-term) (Vodden 1999).
- Land Uses: wide array of benefits (Matakala and Duinker 1991).
- Existence of incentives for sustainable management if actors are driven to act unsustainably (Pinkerton and Weinstein 1995).

ATTRIBUTES OF THE TENURE

- Meaningful tenure with sufficient duration, security and delegation of authority to encourage community involvement and achieve community-defined objectives. This includes the meaningful delegation of authority and responsibility for resource planning and management from the provincial government to the community (Cortex 1996).
- Collective-choice arrangements (most individuals affected by operational rules are included in the groups that can modify these rules) (Ostrom 1992).
- Unwilling or unable to transfer access rights out of their area (Pinkerton and Weinstein 1995).
- Operational rights (access, withdrawal) (Schlager and Ostrom 1992).
- Collective Choice Rights (Schlager and Ostrom 1992).
- Constitutional Rights (Rights to decide who makes decisions) (Schlager and Ostrom 1992).
- Categories of management:

  1. policy-making and evaluation
  2. ensuring the productive capacity of the resource
  3. regulating fishery access
  4. regulating fishery harvest
  5. coordinating potential conflicting uses
  6. enforcing or implementing rules and management activities
  7. maximizing benefits to fishermen (Pinkerton and Weinstein 1995).

- Autonomy - access and harvesting rules (Ostrom 1998).
- Land tenure - local control and management (Matakala and Duinker 1991).
- Access to forest resource that is close to the managing community (Cortex1996).
- Minimal recognition of rights to organize (Ostrom 1992).
- Local control (Markey and Vodden 1999).

- Able to assert management rights on an informal, if not formal basis (Pinkerton and Weinstein 1995).
- Management rights of local communities (includes multiple forest uses) (Pinkerton 1998).
- Nested enterprises (different scales of organization) (Ostrom 1992).

Appendix 3: Conditions Lists

Conditions Found In The Literature Related To Community Forestry

Chapter 3

Summary of Conditions in the Literature Related to Attributes of the Forest

- A generally healthy productive forest ecosystem (Markey and Vodden 1999, Matakala and Duinker 1991, Ostrom 1999).
- Reliable, up to date information about the state of the forest ecosystem (Markey and Vodden 1999, Ostrom 1999).
- A forest that is diverse in species, landforms and age classes, and has high potential for providing a diversity of benefits (Betts 1998, Cortex 1996, Markey and Vodden 1999, Matakala and Duinker 1991).
- Adequate stock of merchantable timber in a balanced age class distribution to sustain the community forest over the long term (Matakala and Duinker 1991).
- Reliable and up to date information about the availability of natural resources (Markey and Vodden 1999, Ostrom 1999).
- Area large enough to conduct landscape planning (Pinkerton 1998) and to support a successful timber business (Cortex 1996).
- Area small enough that users can develop accurate knowledge of external boundaries and micro-environments (Ostrom 1999).
- Clearly defined boundaries (Ostrom 1992).

Summary of Conditions in the Literature Related to Attributes of the Community

- The existence of local forest knowledge (Betts 1998).
- Available local technical knowledge and skills (Betts 1998, Matakala and Duinker 1991, Vodden 1999).
- A commitment to education and training (Markey and Vodden 1999, Pinkerton 1998).
- A dynamic leader or ‘sparkplug’ (often an elected official, e.g., the mayor) and /or a core group of committed individuals who are motivated and, together, have the necessary skills, knowledge and community acceptance to make a community forest happen (Cortex 1996, Markey and Vodden 1999, Ostrom 1999, Pinkerton 1998).
- Commitment to fostering leadership skills on an ongoing basis (Markey and Vodden 1999).

- An available, healthy pool of human resources (Markey and Vodden 1999, Matakala and Duinker 1991).
- High level of local entrepreneurship and will to become more self-reliant (Betts 1998,. Markey and Vodden 1999, Matakala and Duinker 1991).
- Highly identified with local forest ecosystems (Betts 1998, Pinkerton and Weinstein 1995).
- Community enthusiasm for forestry in general and community forestry in particular (Betts 1998, Matakala and Duinker 1991).
- Shared concern regarding the state of forestry (Vodden 1999).
- Agreement on expectations and objectives for a community forest (Cortex 1996).
- Broad-based public participation and support (Markey and Vodden 1999).
- Sense of community evidenced by a high level of civic engagement (Markey and Vodden 1999).
- Healthy local economy (Markey and Vodden 1999).
- Members of the community depend on the forest for livelihood or other variables of importance to them (Ostrom 1999, Pinkerton and Weinstein 1995).
- Existence of and potential for markets and customers (Matakala and Duinker 1991).
- Presence of amenities and knowledge of their capacity to attract business investment (Markey and Vodden 1999, Matakala and Duinker 1991).

Summary of Conditions in the Literature Related to the Community Forest Organization

- The appropriate structure of the CFO should be selected which serves to enable effective and accountable management of the community forest in a manner that reflects the values of the community being served (Cortex 1996).
- The CFO incorporates a framework for public involvement (Betts 1998, Cortex 1996).
- CFO has a clearly articulated mission and statement of forestry objectives (Usher et al. 1994).
- Mechanisms for effective management (Pinkerton and Weinstein 1995).
- Mechanisms for accountability (Pinkerton and Weinstein 1995).
- Mechanisms for adaptability (Ostrom 1992, Pinkerton and Weinstein 1995).
- Established process for conflict resolution (Ostrom 1992).
- Established process for monitoring (Ostrom 1992, Pinkerton and Weinstein 1995, Harvey 1994, Betts 1998).
- Prior organizational experience (Ostrom 1999).

- The existence of other CED organizations in the community (Markey and Vodden 1999, Matakala and Duinker 1991, Vodden 1999).
- The ability to build and maintain partnerships and collaborative relationships both within and outside the community (Bryant 1999).
- Partnerships that only proceed where it is mutually beneficial (Markey and Vodden 1999).
- Participation of a broad spectrum of interests with sufficient overlap of perspective to find common ground (Betts 1998, Cortex 1996, Markey and Vodden 1999, Pinkerton and Weinstein 1995).
- An established process for ensuring fair and equitable representation of all local interests (Harvey 1994 in Betts 1998, Pinkerton and Weinstein 1995).
- Common understanding of the forest: Users have shared image of the forest and how their actions affect each other and the forest (Ostrom 1999).
- Access to capital (Betts 1998, Markey and Vodden 1999, Vodden 1999).
- Ability to conduct sound business planning (Vodden 1999).
- Revenue autonomy (Betts 1998, Usher et al. 1994).
- Ability and commitment to maximize the value of the wood and forest products harvested (Betts 1998, Cortex 1996).
- Long-term approach to financial planning (Markey and Vodden 1999, Vodden 1999).
- Low discount rate (Ostrom 1999).
- Local knowledge of the resource (Betts 1998, Pinkerton 1998).
- Understanding of the connection between forest health and community health (Betts 1998).
- Long-term approach to planning (Markey and Vodden 1999).
- Focus on multiple uses and benefits to be derived (Matakala and Duinker 1991).
- Existence of incentives for sustainable management if actors are driven to act unsustainably (Pinkerton and Weinstein 1995).

Summary of Conditions in the Literature Related to Attributes of the Tenure

- Ability to assert management rights on an informal, if not formal basis (Ostrom 1992, Pinkerton and Weinstein 1995, Pinkerton 1998).
- Forest tenure with sufficient duration, security and delegation of authority to encourage community involvement and achieve community-defined objectives (Cortex 1996).

- Meaningful delegation of authority and responsibility for resource planning and management from the provincial government to the community (Cortex 1996, Markey and Vodden 1999, Matakala and Duinker 1991, Ostrom 1992, Pinkerton and Weinstein 1995, Schlager and Ostrom 1992).
- Access to forest resource that is close to the managing community (Cortex 1996).

Conditions Found in the Case study
Chapter 4

The genesis of the Kaslo Community Forest required the following conditions:

- Available AAC.
- Desire for local control.
- History of community involvement in resource.
- Political will on the part of senior government.

The development of the organization and the implementation of the community forest required the following conditions:

- Leadership: Leadership was key in two ways. 1) Two 'sparkplugs' had the vision and the energy to see it through. 2) The enthusiasm and dedication of a core group of people. There may have been individual sparkplugs, but the group was required to achieve success in obtaining the licence. The KCFS continues to need a strong core of committed people that are able to contribute volunteer time and are committed to the community forest.
- Community Support: This had to be demonstrated to the MOF in order to obtain the licence. This will become increasingly important in future, and of particular importance will be the support of small operators.
- Available local technical knowledge and skills.
- Financing. Startup funds were critical, but had to be sought with caution in order to maintain autonomy.
- Cooperation with senior government. A good relationship with the local MLA and the MOF office was critical in initiating stages and continues to be today.
- Willingness of the community (planning committee) to be pragmatically opportunistic. They knew that the FL could not accommodate their vision of a community forest, but they understood the benefits of taking advantage of the opportunity and the potential costs of not taking advantage of it.

Important conditions at the time of writing:

- Clear mission, policy, and organizational Structure. The KCFS is currently struggling with the fact that the KCF mission statement, policy and organizational structure have not been adequately developed. It has become clear to the board that these issues must be addressed in order to operate efficiently and effectively now and in the future. A Policy Development Guide for Community Forests in British Columbia by Susan Mulkey and Associates provides additional points in this regard.
    - Up to date policies are the only ones that work. When a board lives and operates from its policies, the policies will either work or be changed (Mulkey 1999:3).

- Policies must mean what they say. The use of clearly defined and meaningful language will support efficient governing by the board (Mulkey 1999:3).

- The policy framework must be comprehensive (Mulkey 1999:4).

- Policy documents must be located in a central and accessible location. This visibility will go a long way to ensure the transparency necessary for an organization charged with serving the community (Mulkey 1999:4).

- Community-based volunteer boards must be designed to work within the capacities of time and energy of its members. A clear, detailed policy that articulates the roles and responsibilities of the board and directors will enable efficient operation of the Community Forest and ensure its accountability to the community (Mulkey 1999:6).

- Past Organizational Experience. This has been a key asset for the KCFS. Several members have been involved in other natural resource decision-making processes, as well as other community development organizations.
- The ability to learn how to work together. This is essential in a consensus-based, volunteer organization. Evident in Kaslo has been the importance of individual personalities, trust, and good facilitation. Transaction costs have been high to date.
- Human Resources: Knowledge and skills required for board and staff include:
    - Technical forestry knowledge
    - Ecological knowledge
    - Business skills
    - Social activism
    - Creativity , innovation
    - Enthusiasm and commitment
    - Ability to work with others
    - Facilitation skills to balance the group
- Good relationship between board and staff. There must be a high level of trust between the board and the employees.
- Business Orientation. A Forest License needs to be operated like a business. This has been difficult because of the wholistic nature of the KCFS vision.
- Adaptive Management. In order for the community forest to achieve its goals and to be sustainable, it must be managed adaptively. In order for this to happen, however, the community must accept that the KCFS may make mistakes along the way.

Conditions that led to a focus on sustainable forestry:

- Adjacency. The community forest land base is adjacent to the community As a result, there is a good understanding of the direct relationship between the forest and the community.
- Ability to find common ground. Kaslo is a diverse community with many different values related to the forest. However, it is not so divided that common ground cannot be reached.
- Long-term vision. Participants want local employment, and a livable community. They want children to be able to stay in Kaslo.
- Strong sense of place.

Conditions that will be important for the future success of the KCFS:

- Partnerships/ cooperation with other licencees both for access to resources and for ecosystem-management. This will be important given the fact that the volume and area of the KCF are small. Cooperation with neighboring licencees may be important for the development of value-added businesses (such as log home building). Cooperation with these licencees will also be critical for effective management at the ecosystem and landscape levels.
- Area-based licence.
- Long-term licence.
- Ability to determine own harvest levels.
- Ability to exclude others, a right currently held *de jure* by the District Manager.
- Adequate timber/area to be financially viable (This may only come through partnering with other local licencees).

Comprehensive List of Conditions Presented to the Focus Group and Subject of the Analysis

Chapter 5

Attributes of the Forest

- A generally healthy and productive forest.
- Reliable, up to date information about the state of the forest.
- A forest that is diverse in species, landforms and age classes, and has relatively high productive potential.
- Adequate stock of merchantable timber in a balanced age class distribution to sustain the community forest over the long term.
- Reliable and up to date information about the availability of natural resources for commercial purposes.
- Spatial Scale: Area large enough to manage for landscape scale issues and to support a successful timber business.
- Area small enough that users can develop accurate knowledge of external boundaries and micro-environments.

Attributes of the community

- The existence of local forest knowledge.
- Available local technical knowledge and skills.
- Commitment to education and training.
- A dynamic leader or ‘sparkplug’ and/or a core group of committed individuals who are motivated, and together, have the necessary skills, knowledge and community acceptance to make a community forest happen.
- Available, healthy pool of human resources.
- High level of entrepreneurship and will to become more self-reliant.
- Community highly identified with local forest ecosystems.
- Community enthusiasm for forestry in general and community forestry in particular.
- Shared concern regarding the state of forestry.
- Agreement on expectations and objectives for a community forest.
- Sense of community evidenced by high level of civic engagement.
- Healthy local economy.
- Members of the community depend on the forest for livelihood or other values of importance to them.
- Existence of and potential for markets and customers.

- Presence of amenities and knowledge of their capacity to attract residents business investment.
- Willingness of the community to be pragmatically opportunistic.

Attributes of the community forest organization

- Appropriate CFO structure that serves to enable effective and accountable management of the community forest in a manner that reflects the values of the community being served.
- Mechanisms for effective management.
- Prior organizational experience.
- Existence of other CED organizations in the community.
- Ability to build and maintain partnerships and collaborative relationships both within and outside the community.
- Participation of a broad spectrum of interests with sufficient overlap of perspective to find common ground.
- An established process for ensuring fair and equitable representations of all local interests.
- The ability to learn how to work together.
- Common understanding of forest ecosystems.
- Access to financial capital.
- Ability to conduct sound business planning.
- Revenue autonomy.
- Ability and commitment to maximize the value of wood and forest products harvested.
- Low discount rate.
- Focus on multiple uses and benefits to be derived.
- Benefits of the community forest need to be made evident to community.

Attributes of the tenure

- Ability to assert management rights on an informal, if not formal basis.
- Meaningful tenure with sufficient duration, security and delegation of authority to encourage community involvement and achieve community-defined objectives.
- Access to a forest close to the managing community.
- Political will on the part of the B.C. Government to enable sustainable community forestry.

Final List: Necessary and Beneficial Conditions for Sustainable Community Forestry
Plus Conditions Likely to Lead to Ecological Sustainability
Chapter 6

14 Conditions that are necessary to the development of sustainable community forestry in B.C.

The Community

- Strong local desire to assert management rights. Indicators of this include a will within the community to become more self-reliant as well as evidence of entrepreneurial spirit.
- A dynamic leader or 'sparkplug' and/or a core group of committed individuals who are motivated and, together, have the necessary skills, knowledge and community acceptance to make a community forest happen.
- Community enthusiasm for forestry in general and for community forestry in particular. Accompanying this should be mechanisms to transform this enthusiasm into commitment over the long term.

The Community Forest Organization

- Appropriate Community Forest Organization (CFO) structure that serves to enable effective, accountable and adaptable management of the community forest in a manner that reflects the values of the community being served. This should include a mechanism for conflict resolution.
- Access to financial capital.
- Ability to conduct sound business planning.
- Participation of a broad spectrum of interests with sufficient overlap of perspective to find common ground. To facilitate this participation, there must be an established process for ensuring fair and equitable representation of all local interests.
- Ability of the members of the CFO to learn how to work together to build social capital within the organization.
- Ability to build and maintain partnerships and collaborative relationships both within and outside the community. This includes relationships with the Ministry of Forests, neighbouring licencees, and local contractors. This should be coupled with a good understanding of how new partnerships will affect the autonomy of the CFO.
- Commitment to long-term planning.

The Tenure

- Political will on the part of the B.C. Government to enable sustainable community forestry.
- Meaningful tenure with sufficient duration, security and devolution of management rights either on a formal or informal basis, to encourage community involvement and achieve community-defined objectives. This tenure should include: an area-based, long-term licence with sufficient AAC/geographic area to be financially viable; the right to participate in decisions regarding harvest levels and timing of harvest; the ability to exclude other resource users; and positive incentives for stewardship and the use of a low discount rate.
- A large enough area with an adequate stock of merchantable timber in a balanced age class distribution to sustain the community forest over the long-term. However, the area should be small enough that users can develop accurate knowledge of external boundaries and internal micro-environments.
- The community forest land base either encompasses or is directly adjacent to the managing community.

15 Conditions that are beneficial to the development of sustainable community forestry in B.C.

The Community

- Members of the community are highly identified with local forest ecosystems. This connection is facilitated when people depend on the forest for their livelihood or other variables that are of importance to them (such as drinking water, viewscapes and recreational opportunities).
- A strong sense of community evidenced by a high level of civic engagement. Sense of community is closely linked to a strong place orientation. Also, community spirit and civic engagement are good indicators of the level of social capital. When residents participate actively in their community, cooperative, trusting relationships grow, and leadership capacity is built.
- Willingness of the community to be pragmatically opportunistic. T the ability of community leaders to think strategically about resource management issues is very important in the struggle to gain greater decision-making authority over local resources.
- The existence of local forest knowledge as well as available local technical knowledge and skills. There should also be a commitment to education and training with a focus on local capacity building where knowledge and skills are lacking.
- Available human resources.
- View of community forestry as one cog in the wheel of a diverse, resilient local economy.

The Community Forest Organization

- Reliable up to date information about the state of the forest
- Reliable up to date information about the availability of natural resources for commercial purposes
- Prior organizational experience. Although not necessary, it does facilitate the development of a new organization.
- Agreement on expectations and objectives for a community forest. To some extent this depends on having a common understanding of the forest, and for sustainable community forestry, a shared understanding of the connection between forest health and community health.
- Focus on the multiple uses and benefits to be derived from the community forest.
- Ability and commitment to maximize the value to the community of wood and forest products harvested.
- Ability to demonstrate the benefits of the community forest to the community.
- Revenue autonomy.
- Capacity to connect to higher value markets in a timely fashion.

11 Conditions likely to lead to ecologically sustainable resource use

- The forest is directly adjacent to the community.
- The community forest organization takes a long term approach to planning with a low discount rate.
- There is local knowledge of the resource with an understanding of the connection between forest health and community health.
- The community depends on the resource for livelihoods or other variables of importance to community members.
- There is participation of a broad spectrum of interests with sufficient overlap of perspectives to find common ground.
- There is a commitment to focus on the multiple uses and benefits to be derived from the forest.
- There is an ability and commitment to maximize the value to the community of the wood and forest products harvested.
- Sufficient startup funds are easily accessible.
- The tenure is area-based and long-term in nature.
- The community forest organization holds the right to participate in decisions regarding harvest levels and timing of harvest and to use ecological criteria in the decision-making process.

- The community forest organization employs mechanisms for adaptive management.

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