

**The Contributions of Social Learning to Collaborative Forest
Governance in Canada and Uganda:
Lessons From Forest-Based Communities**

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ABSTRACT

Collaborative forest governance is viewed as promising for sustainable forestry because it allows forest-based communities to participate directly in management activities and benefit from resource use or protection. Forest-based communities are important because they provide contextual knowledge about the forestry resources being managed. Collaborative forest governance can be strengthened through social learning. Despite significant research on social learning in environmental governance, it is not clear how social learning evolves over time, who has access to social learning opportunities, who influences social learning, and whether learning influences management effectiveness. This study investigated the contributions of social learning to collaborative forest governance in two forest-based organizations: Harrop-Procter Community Forest in Canada, and Kapeka Integrated Conservation Development Agency in Uganda. Data were collected using personal interviews, key person interviews, focus group meetings, and participant observation. Results revealed that in both organizations, participants started engaging in forest management with limited information and learned as they engaged in various activities. In addition, for both organizations, government set the context for what was learned through forest policy. Nevertheless, learning was influenced by the governance structure chosen in the Canadian case whereas learning was influenced by non-governmental organizations in the Ugandan case. As the Canadian organization became effective at complying with forestry legislation over time, learning opportunities and outcomes became more restricted, especially for women. Meanwhile at the Ugandan organization, learning opportunities and outcomes remained restricted for illiterate people irrespective of their gender. In conclusion, this study's findings suggest that the prevalent view that social learning increases collaboration and collective action in forest resource management cannot be assumed.

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DEDICATION

To the people of Harrop, Procter, and Kapeka villages who generously shared their experience,
insights, and knowledge about collaborative forest governance.

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LIST OF ABBREVIATIONS

| | |
|--------|---|
| AAC | allowable annual cut |
| BC | British Columbia |
| BCCFA | British Columbia Community Forest Association |
| BCMF | British Columbia Ministry of Forests |
| BCFS | Budongo Conservation Field Station |
| CBO | community-based organization |
| CODECA | Community Conservation and Development Agency |
| CF | community forest |
| CFA | community forest agreement |
| CFM | collaborative forest management |
| CFMA | collaborative forest management agreement |
| HPCC | Harrop-Procter Community Co-operative |
| HPCF | Harrop-Procter Community Forest |
| HPWPS | Harrop-Procter Watershed Protection Society |
| JGI | Jane Goodall Institute |
| KICODA | Kapeka Integrated Conservation Development Agency |
| MFLNRO | Ministry of Forests Lands and Natural Resource Operations |
| NFA | National Forest Authority |
| NGO | non-governmental organization |
| NTFP | non-timber forest product |
| US | United States |

CHAPTER 1: INTRODUCTION: COLLABORATIVE FOREST GOVERNANCE AND SOCIAL LEARNING

1.1 Introduction

Forests are under extreme threat from overharvesting, fires, invasive species, land conversion, degradation, and climate change (Food and Agriculture Organization 2010). On a global scale, 13 million hectares of forest cover were lost annually between 2000 and 2010 (Food and Agriculture Organization 2010) with developing countries like Uganda experiencing some of the heaviest losses (Nakakaawa et al 2011). Sustainable forest management is management that maintains and enhances the long-term health of forest ecosystems for the benefit of all living things while providing environmental, economic, social, and cultural opportunities for present and future generations (Sustainable Forest Management Canada 2014). This definition implies the engagement of multiple stakeholders across scales and institutions to help maintain forest and community resources. To achieve sustainable forest management¹, therefore, there is a need to include all stakeholders in forest management strategies and to support the equitable distribution of forest management costs and benefits.

Although the management of forest resources has historically been considered the purview of governments, researchers and citizens now argue that a larger role for other stakeholders and rights holders will be more effective in achieving sustainability (Larson and Soto 2008). Hence, in different countries around the globe, stakeholders and rights holders from across private, public, and civil society sectors are seeking to be involved in sustainable forest management.

¹ Forest management refers to formal arrangements made within government policy frameworks with regards to the operations, administration, harvesting, processing, selling, research, and monitoring of forestry resources.

Since the mid-1980s, the management of forestry resources, along with other natural resources, has been decentralized by governments internationally (Larson and Soto 2008). Appraisals of natural resource governance regimes involving decentralization in both developing and developed countries reveal mixed success. Factors that constrain decentralized resource governance include ineffective government policies and programs, limited financial and human resources, inadequate local capacity for implementation, power differentials among stakeholders, lack of gender sensitivity, and inappropriate property regimes (Larson and Soto 2008; Reed 2010a, 2007; Tole 2010; Turyahabwe and Banana 2008). In addition, research on decentralization has revealed that neither purely community-based nor centralized governance is sufficient to protect lands and livelihoods. As Berkes (2010) observed: “[P]urely community-based management has the same weakness as purely top-down government management; they both ignore the multi-level nature of institutional linkages.”

Collaborative forest governance is viewed as a promising approach for meeting the objectives of sustainable forest management in both developing and industrialized countries (Colfer 2005). Collaborative forest governance is an arrangement whereby residents of a local community work together to manage resources within government policy frameworks. Examples of such arrangements include community forestry, collaborative forest management, and joint forest management (Charnley and Poe 2007; Glasmeier and Farrigan 2005). Central to the concept of collaboration is the inclusion of relevant stakeholders, power sharing between different organizations or social groups, and joint decision-making among participants (Berkes 2010). Forest-based communities are considered important participants because they are often directly affected by forest management decisions and activities.

Scholars now believe that effective collaborative governance for sustainability needs to incorporate learning by those involved in order to enhance the capacity of participants to engage in management and to increase the ability of organizations to solve complex problems (Armitage et al 2008; Berkes 2009; Folke 2006). Importantly, individuals and organizations that collaborate must also address the differing capacities of all participants to engage in collaborative processes, requiring groups to learn through social interactions.

According to researchers, learning by those engaged in collaborative processes enables relationship building, inclusion of marginalized people, development of a shared understanding of resource issues, incorporation and use of incomplete knowledge for decision making, as well as improving the capacity to implement activities (Brummel et al 2010; McDougall et al 2013a; Mostert et al 2007). Collaborative processes, in turn, supports and reinforces learning by participants. Hence, social learning and collaboration are mutually reinforcing, enabling people to develop and implement joint activities that contribute to a positive environment. Researchers who have studied social learning in forest management have found that it enabled people to: learn about the social ecological systems they were managing (Fernandez-Gimenez et al 2008), contribute different types of knowledge and skills to forest management (Biedenweg and Monroe 2013; Brummel et al 2010), and better understand other participants' values and desired forest conditions (Cheng and Mattor 2010; Leys and Vanclay 2010). Hence, social learning increases the capacity of participants to manage forest resources sustainably.

1.2 Theoretical Framework: Social Learning and Collaborative Forest Governance

This thesis establishes a theoretical framework linking social learning and collaborative forest governance to help explain the activities and outcomes of forest-based communities engaged in

forest management. The framework is informed by literature from environmental governance, natural resource management, social learning, gender-based analysis in forestry, and development studies. Although there are other learning theories applied to natural resource management (see, for example, transformative learning in Sinclair et al 2011; policy learning in Cheng et al 2011; organizational learning in Brown and Squirrell 2010), I opted to use social learning theory because it addresses learning by groups of people within a social unit. In addition, social learning theory is increasingly being used in natural resource management studies to examine a variety of sustainability issues including siting waste facilities (Webler et al 1995), management planning for co-management areas (Schusler et al 2003), natural resource management (Keen et al 2005), management of CFs (Brown et al 2008), adaptive co-management (Cundill 2010), and agriculture (Nykivist 2014). Social learning takes place during forest governance even if practitioners do not intentionally set out to learn. In addition, collaborative forest governance—the focus of this thesis research—is participatory and provides activities that support learning. Social learning, therefore, can help participants to better understand and improve initiatives undertaken through arrangements for collaborative forest governance.

1.2.1 The development of social learning theory in natural resource management

Social learning was first defined in psychology as learning from others through observation and modelling behaviour (Bandura 1978). This definition greatly influenced the conceptualisation of social learning in natural resource management. There are several definitions of social learning used in natural resource management literature. Earlier definitions of social learning in natural resource management focused on learning during social interaction with others; these earlier

definitions also differentiated social learning from individual learning (see, for example, Schusler et al 2003; Webler et al 1995). Later definitions of social learning added knowledge creation, reflection, and action as part of social learning (Cheng and Mattor 2010; Cundill 2010; Fernandez-Gimenez et al 2008; Keen et al 2005). The most recent definitions of social learning include the idea that people learn in groups or social units through social interaction (Reed et al 2010). Reed and others (2010) provided a definition that includes the process, outcome, and context of social learning; they defined social learning as “a change in understanding that goes beyond the individual to become situated within wider social units or communities of practice through social interactions between actors within social networks.” This definition was adopted for this thesis because it conceptualized social learning in a way that could be investigated in a collaborative forest governance initiative.

Social learning theory shares some features with other learning theories (organizational and transformative learning) and consequently has been used in combination with these learning theories to study natural resource management. For example, social, organizational, and transformative learning involve adult learning, describe human beings as learning agents, use similar indicators to identify learning, and describe similar learning outcomes. In addition, the three types of learning theories have complementary goals; transformative learning prepares the individual for personal action (e.g., Mezirow 1994), social learning prepares a group for collective action (e.g., Rist et al 2007), and organizational learning prepares an organization for effectiveness (e.g., Argyris and Schon 1978).

Social learning theory has been used in combination with organizational learning theory to investigate natural resource management (e.g., Fernandez-Gimenez et al 2008; Keen and Mahanty 2006; Maarleveld and Dangbegnon 1999). According to these researchers, social

learning provides the context for group learning through social interaction, and organizational learning provides the framework for identifying learning levels and solutions. In organizational learning theory, three levels of learning have been articulated: single, double, and triple loop learning. In single-loop learning, error is detected and corrected but organizational policies or norms remain unchanged. Learning at this level is primarily concerned with organizational effectiveness (Argyris and Schon 1978). In double-loop learning, error is detected but cannot be corrected by just changing activities or behaviour; underlying norms and values also have to be examined and sometimes changed. In triple-loop learning, when error is detected, values are examined and restructured before the error can be corrected (Armitage et al 2008; Pahl-Wostl 2009).

Social learning has also been used with transformative learning theory to investigate both individual and group learning. For example, Brummel and others (2010) investigated the capacity of a forestry policy-mandated collaboration to encourage social learning at the local level (Brummel et al 2010). However, other researchers (e.g., Armitage et al 2008; Cheng et al 2011) have combined social, transformative, and organizational learning theories to investigate the effectiveness of natural resource management. It appears that the researchers who used all three learning theories were interested in group learning; however, they were also interested in the transformation that occurs within individuals as they learn, and sought to identify the levels of learning by the group using organizational learning theory. Applying multiple learning theories to natural resource management studies is helpful because it highlights the different types of learning that occur. However, applying multiple learning theories can also be challenging because of the different disciplinary backgrounds from which they originate and the consequent lack of consistency in the use of terminology.

Applying social learning theory to natural resource management can be challenging because there are different conceptualizations of social learning. Rodela (2011) reviewed 97 social learning articles and identified three broad conceptualizations: (i) individual-centric, where the individual is the unit of analysis and learning is a transformative process that is initiated when the individual participates in a workshop or similar process; (ii) network-centric, where the unit of analysis is a network and learning is experiential and facilitated within a social unit through interaction with others; (iii) systems-centric, where the unit of analysis could be the individual, ecosystem, or institution, and learning is emergent and facilitated through resource management processes. In addition to the challenges arising out of different conceptualizations of social learning, social learning outcomes are also similar to learning indicators, and in some cases people conflate social learning with the conditions used to facilitate learning, such as participation (Reed et al 2010).

1.2.2 Fostering and identifying social learning

Researchers have also identified process features that foster social learning. For example Muro and Jeffrey (2008) identified facilitation, small group work, egalitarian atmosphere, repeated meetings, opportunities to influence process, open communication, diverse participation, unrestrained thinking, and multiple sources of knowledge. Cundill and Rodela (2012) proposed a slightly different list by suggesting the following processes: knowledge sharing, deliberation, reflection, joint action, building trust, and sustained interaction. Cundill and Rodela (2012) argued that the processes they listed are mainly advanced through collaborative management literature, and this has received the most traction in recent social learning literature. The list of

processes that foster social learning indicate the importance of external facilitation in the learning process.

Social learning is confirmed through the presence of specific outcomes. Some researchers have identified outcomes such as acquisition of knowledge, technical skills, and social skills; change of attitudes and cognition; and improved trust and relationships (Fernandez-Gimenez et al 2008; Muro and Jeffrey 2008; Rist et al 2007). Other researchers have added outcomes such as learning other peoples' values, changes in assumptions, development of shared understandings, implementation of new activities, establishment of new organizations, and improved decision-making (Brummel et al 2010; Cundill and Rodela 2012; Mostert et al 2007). Social learning theorists argue that learning outcomes prepare a group for pro-environmental action.

Some researchers (e.g. Keen et al 2005) argue that learning is fundamental to environmental governance and sustainability. Learning prepares a social unit for collective action and in fact social learning is seen by some as a prerequisite for successful collective action in natural resource management (Brummel et al 2010; Measham 2009; Muro and Jeffrey 2008). Hence, social learning is conceptualized in this thesis as a necessary, if insufficient, condition for participating effectively in collaborative forest governance.

1.2.3 Social learning and collaborative forest governance

Collaborative governance has been considered favourably as a means to meet the objectives of sustainable forest management in both developing and developed countries (Colfer 2005).

Collaborative governance involves the pooling of perceptions, resources, and expertise by multiple stakeholders to manage resources across different scales and institutions (Ansell and Gash 2008; Colfer 2005; Heikkila and Gerlak 2005). Central to the concept of collaboration is

the inclusion of relevant stakeholders; power sharing among different individuals, groups, and organizations; and joint decision-making (Berkes 2010). The main actors in collaborative governance are state agencies, local communities, indigenous peoples, non-governmental organizations (NGOs), and private sector organizations or companies.

Typically, government provides the policy framework under which a collaborative governance process is implemented. In developed countries, government often contributes financial and human resources needed for the process (Ansell and Gash 2008; Cunningham 2009), while in developing countries, government may not be able to make such contributions. Where government is unable to support collaborative governance initiatives, different actors, such as NGOs, have stepped in (Brown et al 2008; Shandra 2007).

Since the 1990s, NGOs have started to play an increasingly important role in collaborative governance processes (Anderson and Horter 2002; Barsimantov 2010; Brown et al 2008; Reed 1997). NGOs can provide key resources to mobilize collaboration, such as financial assistance or expertise for local communities to develop competence or technical ability to engage in the process, and oversight to hold state agencies accountable (Hearn 2007; Pretty and Ward 2001; Reed 1997; Shandra 2007). In countries like Uganda, for example, NGOs play an important role in providing financial resources, as well as initiating, implementing, and monitoring collaborative governance processes (Barr et al 2005).

Collaborative forest governance initiatives bring together participants from different sectors of society. Learning by actors participating in a collaborative enables the generation of knowledge, provides access to knowledge, and also enables the sharing of values that are held by different actors in the collaborative. Learning thus has the potential to empower participants to contribute more effectively to collaborative forest governance processes. Due to power

differentials, some groups of people (e.g., women, indigenous peoples, and people from lower socio-economic classes) may not be able to contribute and benefit equitably from collaborative governance processes (Reed 2010b). Some researchers argue that women, in particular, tend to be more prone to participatory exclusions from forest governance (Agarwal 2010). The term, “participatory exclusions” refers to having the basic right to participate but lacking the tools of power and influence to participate effectively. It has been posited that the exclusion of women from forest management in Canada may result in decisions about forestry that do not necessarily reflect the broad values and/or needs of forest communities (Reed and Varghese 2007; Richardson et al 2011). Understanding collaborative governance, therefore, requires attention to the potential for women and/or other social groups to be marginal actors within any given processes and to consider opportunities for improved access and inclusion.

This thesis conceptualizes social learning and collaborative governance as mutually interdependent. Collaborative forest governance has a learning-by-doing approach; thus, it has the capacity to adapt to the changing conditions of the forestry resources being managed. In collaborative forest governance, participants engage in a variety of activities as they manage forestry resources. Social learning is a participatory process (Reed et al 2010); the activities in collaborative forest governance provide the platform for social learning to occur. Social learning results in outcomes such as increased trust, knowledge, and skills, and the development of a shared understanding. Such outcomes have been found to support and even improve collaborative forest governance practice. Hence, both social learning and collaborative forest governance support each other in efforts to achieve sustainable forest management in both developing and developed countries.

1.3 Research Purpose and Objectives

Despite the general understanding that social learning contributes to collaborative forest governance processes, there is little research that investigates how social learning outcomes and governance approaches influence one another over time. In addition, while it is assumed that community actors contribute to forest management, the influence of NGOs in shaping social learning in collaborative forest management at the local level is not well understood. And finally, there is hardly any published research that examines the effect of gender on social learning in collaborative forest governance.

Given this context, the purpose of this research is to fill gaps in our understanding about how social learning contributes to collaborative forest governance. The specific objectives were to:

1. Describe what forest-based communities learn as they engage in collaborative forest governance;
2. Evaluate mechanisms through which forest-based communities learn as they participated in collaborative forest governance;
3. Examine constraints on participation and learning opportunities that men and women face in forest governance; and,
4. Assess the contribution of social learning to effective collaborative forest governance.

1.4 Overview of Methodology

I used a qualitative research methodology involving a case study approach as described by Yin (2009). The case study approach was selected for this research because the study of social

learning and collaborative forest governance required a detailed investigation of study participants in their natural setting. Two cases were studied, one in British Columbia (BC), Canada and the other in Uganda. The selected cases had similar origins. Both organizations were established by rural forest-based communities that signed agreements with government to manage government-owned forest lands. Although I used two cases, the study was not strictly comparative. Using two cases in different settings (i.e., developed and developing countries) enabled me to examine similarities in how forest-based communities in Canada and Uganda access forest benefits, participate in forest governance, and contribute to sustainable forest management. In addition, using two cases allowed me to capture some of the differences between how forest-based communities in developed and developing countries learn during collaborative governance. The case study strategy also facilitated a deeper understanding of the issues being studied. In natural resource management settings, there is usually a tendency to ‘transfer lessons’ from developed to developing countries. By examining the two cases, I could step back and consider if there was anything that could be learned from either the developed or the developing country setting. Thus, using two cases across different geographic and social contexts provided me with the opportunity to confirm and contest common assumptions and research findings.

Harrop-Procter Community Forest (HPCF), Canada and Kapeka Integrated Conservation Development Agency (KICODA), Uganda were selected for the study because both the Canadian and Ugandan forestry sectors have adopted the principles of sustainable forest management at a policy level and have a substantial population that depends on forests for their livelihoods (Canadian Council of Forest Ministers 2003; Ministry of Water Land and Environment 2001; Natural Resources Canada 2011). Each has participated in an explicit

collaborative forest governance arrangement. In BC, community forestry was established as a mechanism to allow forest-based communities to obtain a range of direct benefits from forest management, including timber revenues. In Uganda, collaborative forest management (CFM) was established to allow forest-based communities to access and manage forest resources. Both countries set a policy framework whereby forest-based communities could sign an agreement with government and manage government-owned forests. Both cases had also been engaged in forest management for more than five years, allowing sufficient time for learning to occur and for outcomes to be visible. Each site established a community-based organization to manage forestry resources and consequently, people had to learn the fundamentals of forest management as outlined in government regulations and policy. Hence, examining these organizations also offered an opportunity to study how organizations practice social learning within a collaborative governance arrangement. Table 1.1 provides key characteristics of the two cases.

Table 1. 1. Harrop-Procter Community Forest and Kapeka Integrated Conservation Development Agency

| Name | Harrop-Procter Community Forest | Kapeka Integrated Community Development Agency |
|------------------------|---|---|
| Year agreement signed | 1999 | 2005 |
| Governing body | Board of directors | Executive committee |
| Leadership appointment | Elected by members | Elected by members |
| Area of forest managed | 11,300 ha | 767 ha |
| Summary of objectives | Forest conservation and protection, awareness raising, local livelihood improvement | Watershed protection, environmental education, local job creation |
| Member meetings | annual, non-members welcome | annual, non-members welcome |
| Contract length | 25 years, renewable | 10 years, renewable |

The study was approved by the University of Saskatchewan Behavioural Research Ethics Board. Permission to conduct research in Uganda was obtained from the Uganda Institute of

Sciences and Technology, the National Forest Authority, and the President’s Office. Fieldwork was conducted from January to July 2013.

Data were collected using personal semi-structured interviews, focus group meetings, key person interviews, and participant observation. See appendices for interview and focus group meeting guides. Table 1.2 provides an overview of the number of people who participated in the study.

Table 1. 2. Information about study participants

| | HPCF | | | KICODA | | |
|--|--|------|-------|---|------|-------|
| Data collection dates | June to July 2013 | | | January to March 2013 | | |
| | Female | Male | Total | Female | Male | Total |
| Number of personal interviewees | 14 | 14 | 28 | 14 | 17 | 31 |
| Number of focus group participants | 6 | 5 | 11 | 10 | 13 | 23 |
| Number of key person interviewees | 2 | 5 | 7 | 1 | 5 | 6 |
| Description of key person interviewees | <ul style="list-style-type: none"> - Forester, HPCF - Coordinator, British Columbia Community Forest Association - 3 officers with Nelson and Kamloops office of MFLNR - Retired director, MFLNR | | | <ul style="list-style-type: none"> - Forester, National Forest Authority Head Office - Forester, National Forest Authority Budongo Range Office - 2 CODECA employees - Jane Goodall Institute project coordinator - Budongo Forest project manager | | |

Notes: HPCF = Harrop-Procter Community Forest; KICODA = Kapeka Integrated Conservation Development Agency; MFLNR = Ministry of Forests, Lands, and Natural Resource Operations; CODECA = Community Conservation and Development Agency.

A total of 59 people participated in the personal interviews, whereas 13 people participated in the key person interviews. The focus group meetings involved a total of 34 people, of whom four had not participated in any prior interviews. Therefore, 63 people participated from the forest-based communities. Participant observation involved several guided and unguided forest walks, participating in organization activities, interviewing people in their

natural setting, visiting the studied organizations' offices, attending a HPCF board of directors' meeting, attending boundary plot allocation exercise in Budongo Forest, and socialising with study participants in the public places of their communities. My observations were usually recorded at the end of the day for later reference. A detailed description of data collection and analysis is included within each of the three subsequent manuscripts, Chapters Two to Four.

1.5 Ensuring Reliability and Validity

Researchers propose various measures for ensuring the reliability and validity of a study (see, for example, Maxwell 2005; Miles and Huberman 2002; Yin 2009). Following their proposals, various steps were taken to ensure the reliability and validity of this research.

The study's theoretical framework was informed by research related to social learning, forest governance, and gender/development studies. The validity of the research was enhanced by using multiple and well-accepted data collection methods and triangulating research findings across different sources. The snowball sampling method ensured study participants were suggested by a range of local people, not only the leadership. New interview participants were sought until data saturation was reached (see Guest et al 2006). In addition, a semi-structured interview guide with open-ended questions was used to provide participants with an opportunity to contribute to the study.

Studies such as this one rely on participants to provide input. Because participants were important, I provided them with a description of the study and obtained their consent before conducting personal interviews or focus group meetings. Participants were also given the option to call and cancel use of their interview information months after the interview. During interviews, I also tried to put interviewees at ease through small talk, I also encouraged

participants to ask questions before, during, and after the interview. In Uganda, where some interviews were conducted in the vernacular; I addressed my questions and comments directly to the interviewee so that I engaged them. I also greeted and thanked interviewees in a language they understood. Participants in both cases were also given the opportunity to select the location of the interview, resulting in interviews being conducted in homes, offices, eating places, the village centre, the village library, and even in one person's garden. A variety of focus group meeting types were held (all female, all male, and mixed) as recommended by Morgan (1997), to try to provide varied settings for participants.

The study was mostly conducted in English in both Canada and Uganda. However, in rural areas in Uganda, literacy rates are less than 66% (Uganda Bureau of Statistics 2012) and this decreases sharply amongst people above 40 years of age. Since I was not fluent in the languages spoken in the Ugandan study area, I used translators from the two main tribes (Banyoro and Lugbara). The translators were also fluent in Swahili, a language commonly used in the Ugandan study area. I explained the study to the translators, and met with them at the beginning or the end of the day to review the day's work. I also met with them once a week to plan for the week and to discuss translation or study issues; I tried to treat the translators as research partners. I used both male and female translators, as recommended (Shimpuku and Norr 2011). During cross-language interviews, the simultaneous translation method (Wallin and Allstrom 2006) was used and we often had rich narratives.

I brought to this study prior experience from living, studying, and working with/in resource-based and rural communities in both Canada and Uganda. For instance in Uganda, I visited various forest-based organizations to glean lessons that could inform new forest policy. I also worked for three years with the Protected Areas Assessment Program of the Ministry of

Tourism Wildlife and Antiquities as a Monitoring Officer/Team Leader. In this capacity, I worked with wildlife protected area communities, government officials, and politicians to negotiate protected area status and boundaries. In Canada, for my Masters of Environmental Studies degree, I conducted research amongst national park-adjacent communities and environmental NGOs. After that, I worked as a park ranger at a provincial park. Prior to starting my PhD, I worked as an environmental biologist with a consulting company. During my thesis research, I was aware that my education, life experience, and orientation could bias what I perceived or experienced or heard. Therefore, during the research, I practised reflexivity as suggested by Lincoln and Guba (1985), whereby I kept a journal. I also made notes about most interviews and examined my perspectives regularly about what I heard and learned in the field.

1.6 Thesis Structure

This thesis contains three manuscripts following this chapter, after which there is a concluding chapter.

The first manuscript (Chapter Two) is entitled ‘Learning through new approaches to forest governance: Evidence from Harrop-Procter Community Forest, Canada.’ Using eight social learning variables identified from published forestry and other environmental governance literature, this chapter examines social learning at HPCF in BC, Canada. My research findings revealed that while the provincial government, through its forest management policy, sets a framework for what might be learned at the CF, the CF organization also influences learning through the governance structure it establishes locally. I also found that over time, the CF organization became professionalized and more effective at complying with forestry legislation. However, social learning opportunities and outcomes became more restricted. It is often assumed

in the social learning literature that social learning outcomes increase because participants improve conditions for collaboration over time (e.g., Rist et al 2007). By contrast, my findings suggest an alternative outcome – a decrease in participation; hence, such propositions must be tested on a case by case basis.

The second manuscript (Chapter Three) is entitled ‘The shaping of social learning outcomes by non-governmental organizations in collaborative forest management.’ This chapter also uses the variables employed in the second chapter to examine ‘who’ influences ‘what’ is learned during collaborative forest governance. It particularly focuses on the roles that NGOs play in shaping social learning during forest governance in a developing country context. My research findings show that these NGOs played various roles and filled a gap that the national government provided for in the national forest policy. My research findings illustrate that by playing various roles, e.g., advocacy, funding, capacity building, research, and monitoring, NGOs work as change agents, enabling social learning and facilitating collaborative forest management in an organization based in a resource-poor forest-based community from a developing-country. However, my research findings also reveal that NGOs may be limiting social learning to activities that produce quick results, can be quantified, and fit within their mandates. Hence, NGOs leave little room for the forest-based community organization to direct or influence social learning and collaborative forest management outcomes. In Chapter Three, I found that while the Ugandan government established a framework for social learning through its forest management policy, learning at the forest-based community was shaped by NGOs. Hence, the pattern is similar to that of BC. In both Uganda and BC, senior governments set a framework for learning, while other actors shape the activities and outcomes of learning at the

local level. In BC, these actors were found within the CF organization, while in Uganda, these actors were found to be external to it.

The third manuscript (Chapter Four) is entitled ‘Social learning by whom? Assessing gendered opportunities for participation and social learning in collaborative forest governance.’ This chapter examines the effect of gender on participation and social learning in forest governance. I explain how access, learning spaces, enablers, motivators, and constraints influence and shape local participation and learning outcomes in forest management. My research findings revealed that generally, women’s nominal participation in forest governance is very high; however, women’s effective participation in forest governance, whereby they guide decisions, is still constrained. Gender is still an important constraint on participation, although it has evolved from what earlier forestry researchers reported. There were surprising gains in the Ugandan case whereby women’s effective participation seems to be high, probably as a product of the country’s affirmative action approach enshrined in the national constitution. Social learning in both cases is linked to increased participation levels; they are mutually reinforcing. For both the Canadian and Ugandan cases, literacy, education, and organizational values also influence who participates and learns during forest governance.

The concluding chapter highlights the main lessons learned from the study, outlines contributions to the greater body of research in social learning and collaborative governance, and suggests some areas for future research.

1.7 Copyright and Author Permission

Chapters Two to Four of this thesis consist of manuscripts that have been submitted to peer-reviewed journals for publication. I am the first author of all the papers, as per the guidelines for

a manuscript-style thesis provided by the College of Graduate Studies, University of Saskatchewan. I collected data, analyzed data, and took the lead in conceptualizing the manuscripts. Manuscript citations are provided below.

Chapter Two: Egunyu, F., Reed, M.G., and Sinclair, J.A. Learning through new approaches to forest governance: Evidence from Harrop-Procter Community Forest, Canada. Under review by *Environmental Management*.

Chapter Three: Egunyu, F., Reed, M.G., and Sinclair, J.A. The shaping of social learning outcomes by non-governmental organizations in collaborative forest management. Under review by *World Development*.

Chapter Four: Egunyu, F. and Reed, M.G. Social learning by whom? Assessing gendered opportunities for participation and social learning in collaborative forest governance. Under review by *Ecology and Society*.

PREFACE TO CHAPTER 2 - LEARNING THROUGH NEW APPROACHES TO FOREST GOVERNANCE: EVIDENCE FROM HARROP-PROCTER COMMUNITY FOREST, CANADA

Collaborative forest governance approaches, such as community forestry, are seen as promising for forestry because they allow communities to participate in forest management and benefit from resource use. Collaborative forest governance is strengthened through social learning which can enhance management capacity. Despite significant research on social learning in environmental governance, it is not clear how social learning evolves over time, who influences social learning, and whether learning influences management effectiveness. This chapter begins to answer these questions.

This thesis has four objectives of which this chapter addressed three: (1) Describe what forest-based communities were learning as they engaged in collaborative forest governance. (2) Evaluate mechanisms through which forest-based communities learned as they participated in collaborative forest governance. (3) Assess the contribution of social learning to effective collaborative forest governance. This chapter reports on how social learning outcomes changed over time using an in-depth study of Harrop-Procter Community Forest. As Harrop-Procter became effective at complying with forestry legislation, social learning opportunities and outcomes became more restricted. Research findings suggest that social learning may not always continue to result in increased participation.

This chapter was submitted to *Environmental Management Journal*. See Eguny, F., Reed, M.G., and Sinclair, J.A. Learning through new approaches to forest governance: Evidence from Harrop-Procter Community Forest, Canada. This article is still under review.

CHAPTER 2 - LEARNING THROUGH NEW APPROACHES TO FOREST GOVERNANCE: EVIDENCE FROM HARROP-PROCTER COMMUNITY FOREST, CANADA

Abstract: Collaborative forest governance arrangements have been viewed as promising for sustainable forestry because they allow local communities to participate directly in management and benefit from resource use or protection. Such arrangements are strengthened through social learning during management activities that can enhance capacity to solve complex problems. Despite significant research on social learning in collaborative environmental governance, it is not clear how social learning evolves over time, who influences social learning, and whether learning influences management effectiveness. This study investigates how social learning outcomes change over time, using an in-depth study of a community forest in Canada. Personal interviews, focus group meetings, and participant observation revealed that most participants started engaging in community forestry with limited knowledge and learned as they participated in management activities. However, as the community forest organization became effective at complying with forestry legislation, learning opportunities and outcomes became more restricted. Our results run contrary to the prevalent view that opportunities for and outcomes of social learning become enlarged over time. In our case, learning how to meet governmental requirements increased professionalism and reduced opportunities for involvement and learning to a smaller group. Our findings suggest the need to test propositions about social learning and collaborative governance.

2.1 Introduction

Since the 1980s, collaborative forest governance arrangements have been viewed as promising for sustainable forestry because they allow local communities to provide contextual knowledge about forest resources, participate directly in management activities and benefit from resource use or protection (Larson and Soto 2008). Community forestry is one such arrangement. Scholars also believe that collaborative governance provides important opportunities for social learning among participants and that such learning is necessary to enhance the adaptive capacity of actors to solve complex problems (Armitage et al 2008; Berkes 2009). Social learning is defined as “a change in understanding that goes beyond the individual to become situated within wider social units or communities of practice through social interactions between actors within social networks” (Reed et al 2010).

Studies focused on forest governance have found that social learning can enable people to: learn about ecological systems (Fernandez-Gimenez et al 2008); contribute different types of knowledge and skills to forest management (Biedenweg and Monroe 2013; Brummel et al 2010); and learn about other participants’ values and desired forest conditions (Cheng and Mattor 2010; Leys and Vanclay 2011). Social learning is particularly important in forestry where changes due to logging, land conversion, climate change effects, and pests/disease can be rapid and widespread, thereby requiring governance systems that are adaptable and learning-oriented.

Although research in collaborative forest governance has emphasized local benefits, researchers now understand that community-level impacts are realized through the interplay of local and extra-local participants (Berkes 2010; Young et al 2008). External actors such as government or donor agencies can set expectations for practice through management requirements, policies, and/or funding terms that set the conditions by which community forests

(CFs) participate in active forest governance. CFs are also based on the desires of 'inside' actors - for example, the desires of the local community for employment, forest protection, and forest based recreation. Such desires may not be realized immediately and may also change as the CF becomes established. Indeed, Measham (2013) suggests that the effects of learning may require an extended period of time before they can be observed. Hence, to more fully understand social learning processes and outcomes, one must allow sufficient time for a CF initiative to take root.

Despite a general understanding that collaborative resource governance processes take time to evolve, there is little research in the social learning literature that focuses on how learning opportunities evolve over time. Research on social learning tends to assume that time is needed to build trust, understand and address competing perspectives (e.g., Schusler et al 2003); build deliberative dialogue, and implement solutions/corrective action (e.g., Brummel et al 2010; Measham 2013). Pahl-Wostl et al (2007) suggested that certain social learning outcomes can be expected over different time periods. For example, they proposed that short to medium time scales are needed for learning at the local level while longer time scales are needed for learning at the macro/societal levels where values and governance regimes are affected. However, does more time always lead to richer learning outcomes for the participating community?

Given that the literature does not address this question, the purpose of our research was to investigate the opportunities for and outcomes of social learning in a collaborative forest governance setting over an extended period of time. We do so by conducting an in-depth case study of the Harrop-Procter Community Forest (HPCF) in BC, Canada. Established in 1999, this CF is one of the longer-running BC CFs (Ministry of Forests Lands and Natural Resource Operations (MFLNRO), referred to hence forth as Ministry of Forests, 2014), with a 23-year history of environmental activism prior to its official designation (HPCF 2014). We investigated

what participants learned together and how such learning was enabled or constrained by expectations and requirements by actors outside and within the CF, with specific attention to changes that took place since the formal existence of the CF.

We begin with a review of the social learning and collaborative forest governance literature to identify variables to guide our analysis. Although we draw from some literature about social learning outcomes associated with water governance (e.g., Koontz 2014; Mostert et al 2007; Pahl-Wostl et al 2009), natural resource management (e.g. Rist et al 2007; Schusler et al 2003), and farming (Nykvist 2013), we focus on the literature that connects social learning and forestry. We then describe our methodology, present results, and offer discussion to help us assess how social learning contributed to changes in forest governance over time. Finally, we highlight the main outcomes and influences in this setting. In our case, government influenced social learning opportunities through its community forestry policy and regulations - the participation avenues and learning opportunities and outcomes at HPCF became narrowed as the CF became more professionalized. Our findings suggest that we consider the implications of these findings for theory and practices of social learning and environmental governance.

2.2 Conceptual Framework

2.2.1 Social learning during collaborative forest governance

Social learning first appeared in natural resources literature in the 1990s and has been variously defined (Maarleveld and Dangbegnon 1999; Webler et al 1995). The initial definitions centered on individual learning, for example, Webler et al (1995, pg. 445) stated: “Social learning refers to the process by which changes in the social condition occur – particularly changes in popular awareness and changes in how individuals see their private interests linked with the shared

interests of their fellow citizens”. With time, scholars realized that social groups can learn and definitions started including this notion. For example, Schusler et al (2003, pg. 311) defined social learning as: “... learning that occurs when people engage one another, sharing diverse perspectives and experiences to develop a common framework of understanding and basis for joint action”. This definition has the elements of learning, social interaction, and a common understanding and has been adopted by a number of scholars.

Over time, definitions of social learning evolved to establish social learning as a social process (Cundill and Rodela 2012) that includes the process, outcome, and context of social learning. For example, Reed et al (2010) defined social learning as; “a change in understanding that goes beyond the individual to become situated within wider social units or communities of practice through social interactions between actors within social networks”. In addition to social interaction, and common understanding, this definition equates learning to ‘a change in understanding’. We opted to use the Reed et al (2010) definition of social learning because it brings together the work of previous scholars and provides conditions for social learning that can be identified and investigated.

Following up from Reed et al (2010), social learning is conceptualized as both a process and an outcome of forest governance (see also McDougall et al 2013a) and can be confirmed when it becomes embedded within the social unit via changes in activities (Biedenweg and Monroe 2013; Cheng et al 2011; Fernandez-Gimenez et al 2008; McDougall et al 2013a). In the forest sector, activities that enable social learning typically include meetings, resource planning, harvesting, or monitoring (Biedenweg and Monroe 2013; Fernandez-Gimenez et al 2008). As people learn there can be outcomes for the governance process (e.g., greater collaboration) and for resources management (e.g., agreement on new approaches to manage non-timber forest

products). Social learning scholars have identified and often use multiple variables to investigate learning as we establish from our review of these in Table 2.1. We adopted eight variables from the literature to explore in our study. Variables #1 to #3 identify potential individual learning outcomes and variables #4 to #8 identify potential learning outcomes for a group of people working together as resource managers.

Table 2. 1. Variables and social learning outcomes as established in the literature

| No | Variable | Examples of learning outcomes from published literature |
|----|-------------------------------|---|
| 1 | Knowledge | Acquired knowledge, learned values of other actors Learning about effective forest management Increased awareness of need for joint action Learnt about concerns of other participants Increased understanding/awareness of problem |
| 2 | Technical skills | Acquired new skills |
| 3 | Social skills | Built trust |
| 4 | Action/Activities | Community-building Change in management practices Developed initiatives based on jointly constructed rules |
| 5 | Relationships | Developed stronger relationships |
| 6 | Shared purpose/ understanding | Shared understanding of wildlife problem Shared understanding of ecosystem Shared understanding of forest management |
| 7 | Values/ Attitude/ Assumptions | Changed social attitudes and assumptions Integrated different stakeholder frames in the process |
| 8 | Structure/ Organization | Establish new organizational structure for management |

Sources: Biedenweg and Monroe 2013; Brummel et al 2010; Fernandez-Gimenez et al 2008; Mostert et al 2007; Rist et al 2007; Schusler et al 2003.

Scholars have examined learning in forestry settings and found that learning outcomes have implications for management and governance, for example: participant learning contributed to a more positive attitude towards forest conservation in Kenya (Sinclair et al 2011); social learning enhanced collaboration amongst stakeholders in the US (Cheng and Mattor 2010); and, social learning also contributed to collective action in the Bolivian Amazon (Biedenweg and Monroe 2013). These positive outcomes have been supported by the broader social learning literature that suggests that social learning takes place through deliberative processes, improves

decision making, and leads to collective action about natural resources (e.g., Cundill and Rodela 2012; Koontz 2014; Reed et al 2010; Webler et al 1995). Researchers have documented that it takes time for learning to occur. For example, variables related to building social skills, relationships, and understanding and revisiting values all take time. Researchers have found that social learning can occur in as little as 18 months (e.g., Measham 2013), however, it was also discovered that moving from learning to developing a shared understanding and implementing collective action takes longer (Measham 2013; Schusler et al 2003). Indeed Cheng and Mattor (2010) argued that, time is needed in order for actors to develop collaborations.

There is an unwritten assumption that as communities work together, these learning outcomes will become stronger. For example, as people dialogue over resource management issues, they become more aware of, sensitive and open to understanding the values of others (e.g., Fernandez-Gimenez et al 2008; Leys and Vanclay 2010). In situations where conflict has characterized previous attempts to bring communities together, it takes time to build relationships/rapport and developed a shared purpose or understanding (e.g., Schusler et al 2003). Indeed, the frequently-cited “levels of learning” (e.g., Lebel et al. 2010; Pahl-Wostl et al 2007) imply or suggest that instrumental learning (skills) may be more rapidly realized than relational learning (change in values). However, there has been little research that examines how social learning opportunities and outcomes evolve over a long-term environmental governance arrangement (cf: Measham 2013).

2.2.2 Linking social learning to effective governance

There is no single strategy for linking learning and effectiveness in governance because in any given collaborative forest governance arrangement, there are several factors that can cause

change. Examples include learning, socio-economic conditions, regulatory regime change, or natural disasters (Lertzman et al 1996). Researchers have argued that to infer learning (and by implication change), one has to carefully identify the link between process and outcome (Gerlak and Heikkila 2011). However, while one can compare desired versus actual outcomes, attributing effects to specific causes in the real world may not be possible (Conley and Moote 2003).

Another strategy used in resource analysis more broadly is to consider management outcomes against desirable management objectives (Rees 1990). For example, Teitelbaum (2014) proposed using three desirable conditions as benchmarks to assess whether CF objectives were being achieved: participatory governance, local economic benefits, and multiple forest use. Conley and Moote (2003), on the other hand, proposed alternative means: measuring specific tangible outcomes, documenting participants' perceptions, and assessing processes.

Given the challenge of linking outcomes to causes and the lengthy time period over which environmental change might be realized, we opted to ask participants what effective forest governance looked like and what changes had occurred in the CF as a result of learning. This approach has been used and documented by other scholars studying social learning such as Brown et al (2008), Brummel et al (2010), Fernandez-Gimenez et al (2008), Measham (2009, 2013), Schusler et al (2003), and Sinclair et al (2011). We also augmented the perceptions of direct participants by comparing social learning outcomes to HPCF's mandate and BC government CF expectations.

2.3 Research Design

This study used a qualitative research design employing a case study strategy of inquiry. The qualitative design is described by Cresswell (1998 pg. 15) as "... an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or

human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting.” Since we were interested in determining learning outcomes and factors that influence those outcomes a qualitative approach made the most sense. In addition, we used the qualitative design because it was better suited for this study, it enabled us to explore and get at the nuances of social learning in a way that a purely quantitative study may not have. The case study strategy was selected because understanding social learning and collaborative forest governance required a detailed investigation of study participants in their natural setting.

We believed that 14 years of operation (at the time of field research) provided sufficient time for initiatives to be tested, outcomes evaluated, new strategies implemented and for us to observe evolution in social learning. HPCF was also selected because: (1) it was formed by local communities who had sought for 23 years prior to designation to protect their forested watersheds from logging; and (2) multiple actors have been actively involved to build local forest management capacities.

2.3.1 Case study: Harrop-Procter Community Forest

HPCF is located in the communities of Harrop and Procter about 30 km north east of Nelson in southwestern BC (Figure 2.1). It covers 10,300 ha of Provincial Forest Crown land on the South Shore of the West Arm of Kootenay Lake.

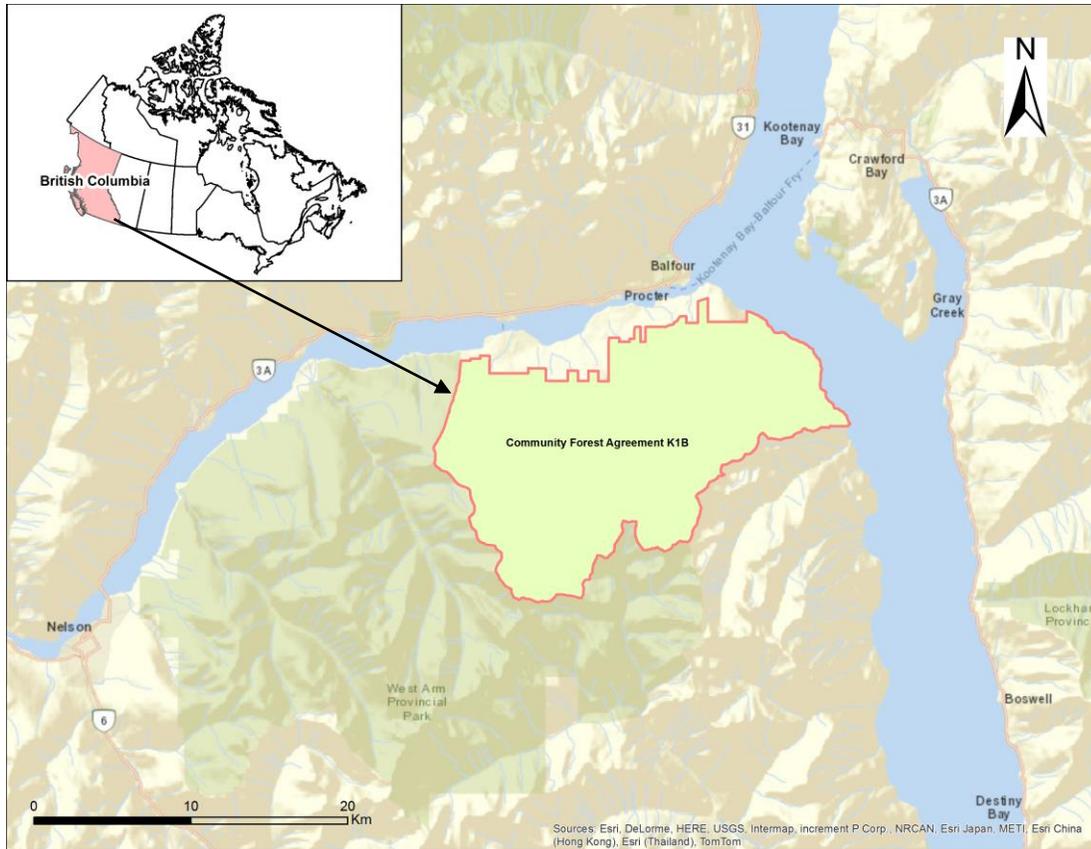


Figure 2. 1. Harrop-Procter Community Forest location

(Map Source: HPCF)

The formation of the CF in 1999 was the culmination of a 23 year process in which the local people wanted to have control over their forests. HPCF’s management philosophy is influenced by ecosystem-based conservation planning which is described as “... a method of ecosystem protection, maintenance, restoration, and human use that, as the first priority, maintains or restores natural ecological integrity—including biological diversity—across the full range of spatial (from very large to very small areas) and temporal (from short to long periods of time) scales” (Silva Forest Foundation 2015). The Forest Stewardship Council certifies all wood harvested in HPCF. HPCF is managed by Harrop-Procter Watershed Protection Society (the Society) and Harrop-Procter Community Co-operative (the Coop) (Table 2.2). The Society is the

stewardship arm of the CF. The Coop is the business arm of the CF and it holds the CF agreement (CFA). During data collection, it became clear that most interviewees did not think of the Society and the Coop as separate entities, they used the phrase ‘the CF’ to refer to either or both and we will do the same. However, where necessary, we will distinguish between them and use ‘the Society’ to refer to HPWPS and ‘the Coop’ to refer to HPCC.

Table 2. 2. Harrop-Procter Watershed Protection Society and Harrop-Procter Community Co-operative

| Name | Harrop-Procter Watershed Protection Society | Harrop-Procter Community Cooperative |
|----------------------------|--|--|
| Year formed | 1996 | 1999 |
| # of board members | 9 | 12 |
| # of shared board members | 5 | 5 |
| # of members (March 2014) | 37 | 137 |
| Mission | forest & watershed protection; ecosystem-based forest development; employment; research & public education | ecosystem-based forest development; employment |
| Membership | open to all people | residents of Harrop & Procter |
| Board meetings | Quarterly | monthly |
| Member meetings | annual, non-members welcome | annual, non-members welcome |
| Membership fees/categories | annual/residents: \$10 individual, \$25 family. annual/non-resident \$10. life/resident: \$100 | life/residents/individual: \$25 |

Source: HPCF

To assist the reader in understanding key milestones at HPCF, we provide a timeline of events and associated activities of the HPCF (Figure 2.2).

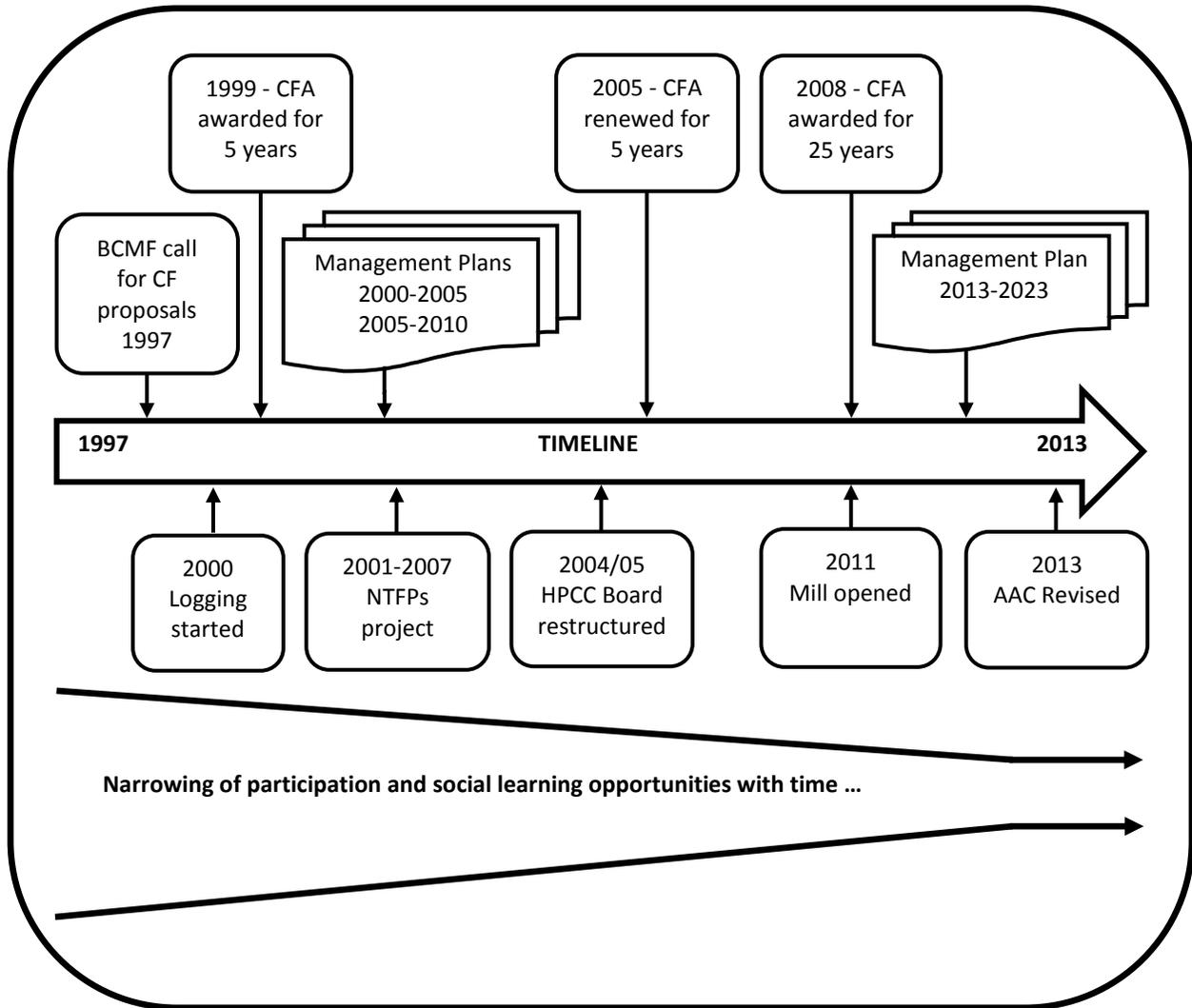


Figure 2. 2. Timeline of major Harrop-Procter Community Forest events

Notes: AAC = allowable annual cut; BCMF = British Columbia Ministry of Forests; CFA = CF agreement; HPCC – Harrop-Procter Community Cooperative; NTFPs – non-timber forest products

2.3.2 British Columbia community forestry policy framework

The BC government defines a CF as “any forestry operation managed by a local government, community group, or First Nation for the benefit of the entire community” (MFLNRO 2014).

The aim of the BC CF program is to promote community involvement and diverse forest use as well as to provide social and economic benefits to forest-based communities (MFLNRO 2014).

For each CF, the Ministry of Forests establishes conditions in the CFA related to tenure type, tenure length, forest management and operations as well as community involvement. Local communities managing CFs are expected to meet government requirements irrespective of their experience with forest management or available human and financial resources. Failure to do so will result in cancellation of their CFA. Local communities that hold CFAs quickly learn that they are subject to the same challenges that other forest licensees have had with regard to forest management including limited resources, external threats to forest ecosystems, and working with limited knowledge (Anderson and Horter 2002). These challenges require learning and adapting during management if the CF is to continue to hold the CFA.

2.3.3 Data collection and analysis

Data were collected by the first author using personal interviews, focus group meetings, and participant observation from June to July 2013. Participants for the personal interviews were identified using the snowball method, starting with board members of the Society and Coop. A semi-structured interview guide was used and all interviews were recorded with the consent of the interviewees. The 43 interview questions were designed to obtain information about activities in which people participated, what they learned, how they learned, and whether they thought the CF was being effectively managed. Twenty-eight people were interviewed: fourteen were male, and fourteen were female. All interviewees were local residents, and all except one interviewee had lived in Harrop-Procter for more than five years. Three of the twenty-eight interviewees were not members of HPCF. The twenty-five interviewees who were members of HPCF had been involved with HPCF from periods ranging from one to over 15 years; 11 interviewees were HPCC and HPWPS board members.

Two focus group meetings were also held with three and eight participants respectively; four of the participants had not participated in the semi-structured interviews but were members of HPCF and lived within Harrop and Procter villages. The focus group meetings were used to present and confirm preliminary findings from personal interviews. The focus group meetings also provided the opportunity for HPCF members to interact and respond as a group. The first author also conducted three forest walks to help her better understand ecological and social values participants associated with the forest. Two of the forest walks were guided. Additionally, six interviews were conducted with employees of HPCF, British Columbia Community Forest Association, and current and former employees of Ministry of Forests. All employee interviews and focus group meeting interviews were also transcribed verbatim and used to inform and confirm information obtained through interviews and personal observations.

Data were analyzed following a mix of inductive and deductive coding by a single coder whereby themes that emerged from the data guided analysis in conjunction with information from reviewed literature (Miles and Huberman 1994). Parent themes for the NVivo analysis came from the literature as outlined in Table 2.3 and included each of the eight social learning variables noted in the table. Grounded data from interviews and focus groups were then coded to these parent themes.

2.4 Learning Through Participation in the Harrop-Procter Community Forest

We organize our results in relation to the purpose of the paper by considering: (i) social learning outcomes grounded in the variables identified in Table 2.1; (ii) who is influencing these social learning outcomes over time; and, (iii) whether social learning is contributing to effective forest governance.

2.4.1 Social learning outcomes within the Harrop-Procter Community Forest

2.4.1.1 What is being learned?

The interviewees were from backgrounds that included forestry, environment, farming, teaching, business, office administration, construction, law, and health care. Despite such varied backgrounds, the participants' interest in HPCF was based on their desire to protect their forests. In order to participate meaningfully in HPCF, participants indicated that they had to learn a lot. When asked what they had learned, interviewees described items that covered all variables described in published literature (Table 2.3). Due to space limitations, the discussion that follows uses examples from Table 2.3 that highlight comments that represent the majority of study participants' responses.

Table 2. 3. Social learning outcomes identified from personal interviews at HPCF

| No | Variables from publications | Social learning outcome examples from personal interviews |
|----|-------------------------------|---|
| 1 | Knowledge | Forest ecology, CF management, sustainable forest management, watershed function and protection, cooperative management, business management, board governance, mill set-up and operations, proposal development and fund raising |
| 2 | Technical skills | Forest monitoring, water quality monitoring, wildlife surveys and counts, timber cruising, business management |
| 3 | Social skills | Leadership skills, communication skills |
| 4 | Action/Activities | Learning to prioritize projects; Closure of non-profitable project (Sunshine Bay Botanicals) |
| 5 | Relationships | Starting to develop a good working relationship with Ministry of Forests |
| 6 | Shared purpose/ understanding | Shared understanding of: sustainable CF business, forest ecology, forest management, need for increased timber harvest volumes (AAC) |
| 7 | Values/ Assumptions/ Attitude | Changed attitudes about loggers, now that they too are logging Changed assumptions about 'high volume' logging |
| 8 | Structure/ Organization | Changed board structure to increase efficiency Developed mill (new organization) to process/sell forest products, developed Sunshine Bay Botanicals to sell NTFPs. |

Note: AAC = allowable annual cut; CF = community forest; NTFPs = non-timber forest products.

For example, interviewees described numerous examples of knowledge acquisition in relation to forestry:

Well I've learned a lot about ecology and how forests function ... I guess I've learned about the length of time we need to look at forests in, ...you got to try and imagine how what we are doing impacts the forest in a hundred years, so the long term nature of planning. [Male participant]

Well I've just become aware of the logging practice; ... I'm aware of what a watershed is.... [Female participant]

Interviewees also reported learning how to prioritize activities:

Start small, focus in on just one or two things. Get that figured out and then take one more. I think we tried to do too much! And it didn't work. [Female participant]

Finally, interviewees who were directly involved in HPCF management described learning about organization or business management:

I think one thing definitely more understanding around board dynamics and how and what can really undermine a board. [Female participant]

From interview responses we found evidence not only of learning but also of the development of a shared CF understanding where interviewees used similar responses to describe forest ecology (e.g. "we have the Kootenay mix here..."), logging practices (e.g., "we use selective logging to protect the forest..."), and reasons for cessation of activities like the production of non-timber forest products (e.g., "Sunshine Bay Botanicals was labour intensive, we tried to do too much ...").

2.4.1.2 How is learning occurring?

Perhaps not surprisingly, what interviewees learned depended, in large part, on the activities in which they were engaged. People described learning through attending meetings and from each other:

In the beginning we did a lot of research or made a point of it as a group, and after that I think we learnt from people who took pity on us or supported us; and we learned from each other and we sought out experts [Female participant].

I learned a lot in the early days by participating in various forums and committees.... [Male participant]

People also reported learning by volunteering during events or projects:

I think all of my skills in CF came from working with the CF and the people that we hired to help us with our plan [Male participant]

Probably from my direct involvement as a volunteer and helping them at meetings, and doing some of their strategic planning. [Female participant]

Interviewees also revealed that HPCF activities were closely linked to their mandate and government regulatory requirements. Although the CFA has timber harvesting as a requirement, the Ministry does not require that a CF directly manage forestry operations; forest management can be sub-contracted to another company. Some CFs in BC (e.g., Logan Lake CF) have sub-contracted forestry operations, however, HPCF has not. In structuring CFs, the Ministry has also given some latitude for CF organizations to reflect local values be they environmental protection, recreation, or local forest-based business development.

2.4.2 Who is influencing learning?

Here, we focus on two examples of learning and change commonly cited by interviewees: the development of a sustainable forestry business and the increase in timber harvest volumes. These two examples illustrate learning outcomes presented in Table 2.3, specifically: acquisition of knowledge (variable #1); development of shared purpose (variable # 6); changed values/assumptions/attitudes (variable # 7); and, structure and organization (variable #8). These two examples also show how HPCF is fulfilling the objectives of the BC CF program specifically by providing opportunities for forest-based communities to achieve their objectives, values and priorities; promoting community participation and involvement; and, providing local social and economic benefits. They also demonstrate a narrowing of focus and participation over time.

2.4.2.1 How government policy creates a central framework for social learning

The Ministry designed the CFA with logging as an integral part. But logging is an economically-intensive business, particularly for small local operators. In the early days of the CFA implementation, HPCF carried out a broad set of activities that fitted within its mandate of advocacy, research, monitoring, forest operations and management, and economic development. In doing so, it stretched its limited resources. With time, HPCF dropped certain activities as described below and focused on learning to become more efficient and sustainable as a forestry business. As one participant said:

I think we have become more efficient and more realistic about running a business...perhaps we were very idealistic at the beginning...our ethic has stayed

the same but it's been weighed with the reality of what it takes to function in the real world of business.... [Male participant]

Part of that 'reality' meant discontinuing some projects and focusing on selected activities. For example, an interviewee described a non-timber forest products initiative that was established when the CFA was first signed, like this:

Sunshine Bay Botanicals, it was just too labor intensive, it didn't work. [Female participant]

Part of the 'reality' also meant employing staff to perform certain functions:

I would say the biggest change....would be the transition from largely volunteer to ... mostly paid positions... [Female participant]

Another participant also commented on the change the HPCF has undergone:

I think the major change is those people that have positions of responsibility....they are in place... the board deals with a lot less day to day things than they used to [Male participant]

There were people who supported and advocated for the use of paid staff for some roles:

I think for the operation of the CF where there is financial, there is legal obligations, there is forest practices adherence to codes and requirements, I think you should have paid staff do that. [Key person]

But using paid staff and giving them more responsibility for forestry operations and management reduced participation opportunities across the membership of the CF. HPCF is now well run but is viewed by participants as being in the hands of a smaller, close-knit group of people. As a participant observed:

...it is sort of a jelled smaller group now that does almost everything, those that have jobs and are getting paid are just a few and they kind of run the whole thing.

I don't feel like anything really is open up to the community. [Female participant]

Hence, as the HPCF became more focused on timber harvesting and sales, there were fewer avenues for participation and learning by community members, a trend that is likely to continue. But in terms of meeting the Ministry's obligations, HPCF's activities can be considered a success. As described below, through its requirements that the CF maintain a logging operation, the Ministry influenced learning at HPCF.

2.4.2.2 Increase in timber harvest volumes

When HPCF applied for a CF license, the Ministry of Forests recommended an allowable annual cut (AAC) of 7,500 m³ but HPCF insisted on a lower AAC of 2600 m³. In 1999, a license with this amount was accepted. The low AAC reflected HPCF's values; they were more interested in preserving their forests and protecting their watersheds than in logging. The AAC was temporarily increased to 12,000 m³ to deal with a mountain pine beetle infestation from 2008 to 2012. HPCF reviewed their AAC and consulted the community about AAC increase. Then, in 2013, with support from members and the community, a new AAC was set at 10,000 m³. This new limit was not set in response to beetle infestation, but reflected new thinking by some members related to improving the economic viability of their CF. It is worth noting that even at 10,000 m³ HPCF's AAC is still one of the lowest in the province (MFLRO 2014).²

A number of interviewees reported learning from activities around the AAC review process from 2012 to 2013 that included meetings, open-house presentations, and a community

² There are 13 CFs that have a smaller area than HPCF; 12 of them have a higher AAC than HPCF. The average BC AAC is 19,500 m³ (MFLNRO 2014).

survey. Overall, there was support for the increased AAC. However, of the twenty-eight interviewees, five felt the new AAC was too high; three of the five were surprised that it had quadrupled. Given that HPCF started with 2,600m³, 10,000 m³ was outside their comfort zone. But others felt that raising the cut was okay but only up to a certain level: raising it past that level meant a value line would be crossed. For some interviewees that line had been crossed with the latest AAC increase. And at least three out of twenty-eight interviewees suggested that HPCF has evolved into a bigger business than it should be. For example, an interviewee wondered:

Do we have to max out our AAC, our sustainable cut? What is the problem with staying with a lower AAC, having less forestry activity, less logging trucks, less going round and that sort of thing? [Female participant]

People who had reservations about a higher cut reasoned that if operational costs were low, fewer people would be employed, and capital investments would be reduced. Hence, a higher AAC would not be justified. By contrast, others said they needed the high AAC in order to run a sustainable CF business and retain direct management of their forests.

Cutting more trees provides more revenue for CF activities. Interviewees who favored this choice argued that a higher cut also enabled HPCF to pay stumpage fees, carry out capital investments, provide local employment, run a sustainable business, and ultimately protect the local water sources (since recent sampling by HPCF showed no increased contamination due to their operations). But harvesting at a higher level also indicates a favoring of values that were not supported by some interviewed HPCF members.

2.4.3 Participants' perspectives on social learning and effective governance

To examine whether social learning was contributing to effective forest governance, we compared learning outcomes to the HPCF mandate and government requirements. We also requested that local community interviewees and government officials share their perspectives on effective governance.

When community members were asked: “Is the organization [HPCF] effectively managing the forest?”, twenty-three of the twenty-eight interviewees agreed it was. For instance, they said their logging methods had fewer negative impacts on the environment than commercial logging companies and they protected the community’s water sources. As one participant put it:

...the forests are managed in a way that they are going to be healthy forests for a long time and they are managed in a way that water, riparian zones around the water courses are well maintained [Male participant]

For some participants, the award of a 25-year CFA after two five-year pilot CFAs showed that HPCF was being managed in line with Ministry of Forests CF requirements.

However, five of twenty-eight interviewees hesitated to say that HPCF was doing an effective job of managing the CF. For instance, one person said the CF could do more, although s/he did not specify what this would be. Another person thought the quadrupling of the AAC could be an issue down the road, while another person was of the opinion that the CF had not yet faced issues that really determine effective management, such as a serious pine beetle outbreak or a huge forest fire.

HPCF’s agreement with the provincial government has specific requirements; therefore, one measure of management effectiveness is whether HPCF is meeting those requirements. When asked what they look for before renewing a CFA, the Ministry’s officials replied with

these criteria: managing for all values; sustainable utilization of resources; protection of environmental values; protection of visual quality; management of forest health; contribution to government taxes; and CF-community harmony. So in summary, for a CF to demonstrate that it is effectively managing the forest, the Ministry requires participants to: manage for environmental values, be inclusive of all sectors of local community society, make a profit, and be sustainable as a business. It appeared that government expectations were similar to those of the contemporary HPCF. According to the Ministry's officials, HPCF participants had acquired the necessary knowledge, social, and technical skills to perform activities that enabled them to meet government's CF requirements. In short, they had learned to become effective managers.

2.5 Discussion: Social Learning at Harrop-Procter Community Forest

This study found evidence of social learning at HPCF across each of the eight learning variables identified in the literature (Table 2.3). Most founding members of HPCF did not have a background in forestry; they also had differing values, knowledge, and abilities, which all pointed to the need for learning to take place. This lack of forestry knowledge, direct experience, and diversity of interest is common at the beginning of CF operations and often requires explicit strategies to bring participants to a common sense of purpose and mission (Bullock and Hanna 2012). Most interviewees indicated they had learned about: forest ecology and operations, community forestry, how to set up and manage a forest cooperative, and also how to run a milling business.

One common learning outcome in the literature is knowledge and skills acquisition (Biedenweg and Monroe 2013; Rist et al 2007; Schusler et al 2003). Almost all HPCF interviewees indicated acquiring knowledge about forestry. They also described acquiring skills

in organization and business management. Another outcome of social learning is the development of a shared understanding within the social unit (Biedenweg and Monroe 2013; Fernandez-Gimenez et al 2008). There was evidence that some of what was learned as individuals became 'shared understanding' within the group. We identified this shared understanding in relation to the similarity of responses associated with interviewee descriptions of forest ecology, watershed protection, and logging practices by people who did not have a background in forestry or had never logged. There were also similar reasons given by CF members for the cessation of specific activities such as the harvest and processing of non-timber forest products through one of HPCF's companies, Sunshine Bay Botanicals. The interviewees also reported a shared understanding of what the CF license is about - a successful, sustainable, environmentally friendly logging operation.

A more in-depth examination revealed that in part, learning took place as people converged on the purpose and necessary practices to manage a CF in order to comply with regulation and become a successful forestry business. This convergence was possible as some people dropped out of active participation in management. Our data revealed that as the organization moved from a pioneer organization to an established business its operations became increasingly professional and focused. The intensive requirements for community forestry practice in BC (for example, the requirement that a certified forestry professional sign off on documents) means that community forestry organizations have to employ forestry professionals. The specialized time-consuming work involved in forestry planning and operations has pushed HPFC, like other BC CFs to hire permanent, professional staff. For example, a forest manager was hired and given decision-making power thereby reducing the number of decisions required by the board. The data also show, however, that with this gradual professionalization at HPCF

there were fewer avenues for participation by community members in the organization. As noted above, some people left the organization or stated they were dissatisfied because the ever increasing AAC did not synchronize with their vision of an environmentally conscious CF. This professionalization and narrowing of participation may also impact the potential for future learning if other community members become disinclined to participate.

We also found that as the CF became more established, the Ministry of Forests influenced learning through the implementation of the Forest Act. Other studies have also identified that policy could potentially influence social learning for better resource management (e.g. Brummel et al 2012; Nykvist 2014). Community forestry in other parts of the world (e.g., Nepal, India) does not have logging as a main requirement (Charnley and Poe 2007), but the BC government requires that all licensees log in a move that some view as perpetuating the industrial model that existed on the landscape (McCarthy 2006). Therefore, most CFs in BC are set up to manage logging businesses either directly or indirectly. For those initiating a CF, this business model may not be familiar; local participants have to learn this (see Reed and McIlveen 2006). This was true in the HPCF case, where most people initially attracted to the concept of a CF came from an environmental, rather than a business, perspective. Government also requires that forest operations planning and management be done through consultations with community members. We see a clear link between CF activities and government requirements. At HPCF, government regulations had an influence on what, how, and when learning unfolded by requiring timber harvesting, specifying the types of organizations that could sign the CF agreement, and requiring community consultations during forestry operations planning and management. This is similar to what was observed by Brummel and others (2010) when they found policy-mandated collaboration to influence social learning in eastern US. In the US study, government was an

external influence in that it mandated collaboration. But social learning was not an automatic outcome in the US study; it depended on the local context and participants.

Similar to the study by Brummel and others (2010), we also found that while external forestry requirements were influential, they were moderated by internal decisions. The governance structure selected by HPCF - a CF run by a cooperative and a society - internally influenced what was learned and who learned. Their governance structure required hands-on management so it influenced what, how, and when social learning unfolded. For example, the board of directors of the Coop and Society took part in the day-to-day management of the CF and learned as they volunteered. HPCF decided to manage the forest using Silva Forest Foundation ecosystem-based approach. Because of this approach the members had to acquire the knowledge and skills related to ecosystem-based forest operations and management. It is clear that internal decisions made at early phases at HPCF about governance structure shaped subsequent learning opportunities and outcomes.

Our results indicate that HPCF became more effective in managing the business of community forestry. We defined management effectiveness as the ability of HPCF to; (1) meet their organizational mandate, and, (2) meet the Ministry of Forest's CFA requirements. The Ministry of Forests requires HPCF to harvest an agreed timber volume while complying with government regulations on road construction, water protection, wildlife habitat protection, public participation, and fire management. HPCF's effectiveness is exemplified by their adherence to government regulations and their ability to run a logging business. However, they did not appear to continue to learn how to embed their learning into the broader community. These mixed results point to the challenge of using participants' perceptions to determine effectiveness. Such perceptions are frequently subjective, difficult to compare against tangible evidence (because

ecological effects may not yet be detectable), and evaluators may not always find it possible to reach all types of stakeholders (Conley and Moote 2003). In a sense, asking participants to assess effectiveness is a little like asking them to assess ‘beauty’ – the key term remains in the eye of the beholder. The mixed results do, however, reinforce the need for multiple strategies when determining effectiveness as we have done here and call for scholars undertaking future research on social learning to engage with evaluation literature to help them better assess the effects of learning outcomes (e.g., Mandarano 2008).

2.6 Implications and Conclusions

Our findings confirm previous research about social learning during collaborative forest governance by demonstrating how members of HPCF gained a better understanding of human-ecological systems, developed a shared understanding of forestry issues (Fernandez-Gimenez et al 2008), implemented forest management (Biedenweg and Monroe 2013; Brummel et al 2010), and learned how to run a forestry business. Hence, the study reinforced that the variables used to identify social learning in previous research in different contexts were also relevant in this case (Tables 2.1 and 2.3).

However, as the study examined learning outcomes over time, it pointed to additional factors affecting learning that have not been previously described. First, although HPCF is rooted in community, its governance and learning was influenced by the interplay between external and internal factors. The Ministry did not design the CF program as a learning program but its forest policy provided the framework that actually guided learning. From establishment to implementation, HPCF’s learning was influenced by government requirements but moderated by HPCF choices. These requirements both opened and closed opportunities for learning. For

example, the governmental requirement to log opened up opportunities to learn the business side of managing a CF, but it required a higher degree of professionalization over time. Hence, the number of participants became reduced and the remaining participants lessened their attention to other forest values such as non-timber forest products.

In countries like Canada, where government sets the conditions for CF, we expect that other CF organizations will share similar experiences. In countries such as Mexico, Nepal, Bolivia, Brazil, and Ghana, where Non-Governmental Organizations (NGOs) and donors become involved in establishing conditions for CFs (see for example Barsimantov 2010; Wright and Anderson 2013), there may also be conditions established that support the interests of donors and NGOs. Research by (Barsimantov 2010) gestures towards this possibility. There is a lack of published literature on the specific influence of government, NGOs, or donor agencies on social learning in CF against which our research might be compared. However, our work suggests a need to be more attentive to these extra-local influences in both theories of how social learning works and the focus of empirical observation. These organizations could also consider how they influence learning outcomes through the policy and programs they set.

The study also draws attention to the temporal nature of learning outcomes. Through learning, HPCF - once known as a very environmentally conscious CF (see McCarthy 2006; Pinkerton et al 2008) carrying out minimal logging, running a non-timber forest products business, and carrying out environmental education - has changed into a CF that is focusing on running a sustainable timber harvesting and processing operation. Since 1999, we found that learning through HPCF is being mediated by the development of an organization that is becoming more professionalized. This professionalism had an unintended effect – it reduced the overall participation and associated learning by community residents in the CF over time. This is

contrary to what literature on social learning in environmental management has typically suggested that learning will enhance opportunities for civic engagement (Brummel et al 2010; Cheng et al 2011). Professionalization may also reinforce the lack of confidence by some participants who do not have forestry and business management skills or experience, thereby further reducing their engagement. Professionalization has been found to reduce public engagement to elite groups in some Canadian forestry public advisory committees (Parkins and Sinclair 2014). The professionalization of HPCF may be having the same effect, i.e., narrowing public participation to people who have acceptable forestry, business, or management knowledge and skills (Reed 2010b).

We posit that with increasing professionalization of a CF organization, social learning will be mostly limited to people who participate directly in the official structures of CF governance unless, (i) more is done to make the CF organization more community focused, and (ii) the CF broadens its focus beyond timber harvesting. Social learning can become restricted if participation becomes focused to a homogenous group with forestry and business experience. However, social learning opportunities might remain available if, ironically, government requires more meaningful processes for community consultation through which local discontent can become more visible. It would be ironic if, over time, CF operations fall into the hands of a few community members with very little input from the ‘community’ (see Assuah 2014). Such an outcome would have implications for both collaborative environmental governance and social learning more broadly. Further research is needed to investigate the extent of social learning in environmental governance arrangements over time, including the tensions between professionalization and learning, and between government requirements and learning opportunities.

Returning to our original question – “Does more time lead to richer learning outcomes?” – our response is mixed. Regulatory and business elements of forestry were well-learned and well-practiced while community engagement and managing for non-timber forest products were not. Our findings suggest a need to develop theory that demands close examination of the evolution of actions including *who is involved* and *what activities* that management models, such as CFs, undertake over time. The assumption that conditions for social learning (e.g., trust, collaboration, sharing values, communicative competence, developing implementation/governance processes) take time to root are likely true. However, social learning theorists cannot assume that over time, learning opportunities will be extended to a larger number of people or the scope of their deliberations will grow. Such propositions must be considered as just that – propositions to be tempered by the observation that more time can also lead to the restriction of participation with fewer outlets available for social learning. If community-based forms of environmental governance such as CF are to reflect community needs and desires, it will be important to know how learning opportunities evolve with the organization to determine how learning and management practice can be maintained across the broadest possible range of community participants over the long term.

PREFACE TO CHAPTER 3 - THE SHAPING OF SOCIAL LEARNING OUTCOMES BY NON-GOVERNMENTAL ORGANIZATIONS IN COLLABORATIVE FOREST MANAGEMENT

When governments decentralised and devolved forest management, spaces were created for NGOs to become more directly involved in forest management. NGOs have a role to play in collaborative forest management particularly in rural communities where people usually lack financial or technical resources to contribute to forest management. Through supporting collaborative forest management activities, NGOs also have the opportunity to influence social learning. However, we don't know how NGOs shape social learning outcomes in collaborative forest management.

Whereas the previous chapter examined social learning in a collaborative forest initiative over time, this chapter examines the influence of NGOs. This chapter reports on the contributions of social learning to collaborative forest governance through focusing on investigating the role that NGOs played in supporting Kapeka Integrated Conservation Development Agency, in Uganda. The thesis has four objectives of which this chapter, like the preceding chapter, addressed three objectives: (1) Describe what forest-based communities were learning as they engaged in collaborative forest governance. (2) Evaluate mechanisms through which forest-based communities learned as they participated in collaborative forest governance. (3) Assess the contribution of social learning to effective collaborative forest governance. This chapter provided an opportunity to examine and learn about how NGOs influence social learning activities and outcomes in a developing country setting.

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CHAPTER 3 - THE SHAPING OF SOCIAL LEARNING OUTCOMES BY NON-GOVERNMENTAL ORGANIZATIONS IN COLLABORATIVE FOREST MANAGEMENT

Abstract: Collaborative forest management arrangements has become a strategy for forest-based communities to share the roles, responsibilities and benefits of forest use. However, in developing countries, communities wishing to participate in collaborative forest management often lack the financial, human, and technical resources to participate effectively. Governments have created space for non-governmental organizations to support and enable communities to participate in collaborative forest management. Research about collaborative forest management suggests that effective forest management requires participants to learn to work together to improve their understanding of forest conditions and develop and implement strategies. Social learning is a necessary part of effective forest management. As they support and enable forest-based communities to implement collaborative forest management, non-governmental organizations have the ability to influence how forest management is undertaken. However, researchers studying forestry have not considered how non-governmental organizations may influence social learning and collaborative forest management outcomes. This paper explores the roles that non-governmental organizations play in shaping social learning and collaborative forest management outcomes in a forest-based community in the developing country context. The paper explains what the community learned as they engaged in collaborative forest governance with non-governmental organizations and considers mechanisms through which the community learned. Data were collected in Uganda through interviews, focus group meetings, and participant observation. Results showed that participants engaged in various forest management activities supported by non-governmental organizations and learned. Results also

showed that non-governmental organizations support was either through funding, capacity building, and or monitoring. However, we found that these non-governmental organizations did not support activities related to joint research or encourage local groups to become more independent of the financial or other resources they provided.

3.1 Introduction

Non-governmental organizations (NGOs) operating in developing countries have long influenced how forest management is undertaken (Pretty and Ward 2001; Shandra 2007). In Cameroon, Bolivia, and Mexico, for example, NGOs were influential in determining where harvesting could take place and the forests that should be set-aside as “protected areas” (Barsimantov 2010; Brown et al 2008). In Bolivia, Ecuador, and Mexico, NGOs lobbied for forest certification as a strategy to ensure conservation and protection of forested areas (Ebeling and Yasue 2009; Klooster 2005). In each situation, NGOs played the role of watchdog, ensuring forestry remained within the range of acceptable activities and participating in monitoring and compliance with national legislation and international forestry expectations. The influence NGOs have had, has in many situations also been criticized for providing forest management strategies that seek to protect the environment without consideration of the needs of affected forest-based communities (Shandra 2007).

Since the 1990s, as national governments decentralized and devolved management responsibilities, NGOs have also become more directly involved in forest management activities, promoting change beyond their watchdog role, by becoming directly involved in forest management activities through training, funding, and building capacity (Brown et al 2008; Larson and Soto 2008; Shandra 2007; Wright and Anderson 2013). Collaborative forest management (CFM) between government and communities has become a strategy for

participating groups to share the roles, responsibilities, and the benefits of forest use (Glasmeire and Farrigan 2005). In developing countries, communities wishing to participate in CFM have often not had the financial, human, and technical resources to do this effectively (Tole 2010). Hence, governments have created space for NGOs to serve as change agents, sanctioning and encouraging NGO contributions to CFM through allowing them to provide financial, administrative, and technical resources to local communities. For example, NGOs helped with the implementation of community forestry by training local people about forest management in Cameroon (Brown et al 2008), assisted in training and equipping state forestry workers in Mexico (Barsimantov 2010), and assisted communities to develop the technical capacity for forest and organizational management in Bolivia (Biedenweg and Monroe 2013). Indeed, researchers have argued that in some developing countries, NGOs have quasi-governmental powers because they provide the funds, personnel, and ideas for forestry-based projects (Shandra 2007).

Research about CFM suggests that effective forest management requires participants to learn to work together to improve their basic understanding of forest conditions, as well as to develop and implement strategies that are socially equitable and environmentally sustainable (McDougall et al 2013a). CFM requires local communities to be involved because of their direct interest in and their contextual knowledge about forest resources. As Berkes (2009) suggests, a critical element for successful collaborative governance, that brings together people with diverse values, resources, and interests to achieve the ideals of CFM, is learning together and learning to govern together. Social learning is a necessary part of effective forest management and governance through collaboration (Brummel et al 2010; Fernandez-Gimenez et al 2008). As

change agents directly involved in CFM, NGOs have the ability to shape the conditions for and influence social learning through CFM initiatives.

We define social learning after Reed et al (2010) as “a change in understanding that goes beyond the individual to become situated within wider social units or communities of practice through social interactions between actors within social networks.” Processes that foster social learning involve knowledge sharing, deliberation, sustained interaction, exposure of values, and trust building (Cundill and Rodela 2012). Activities that advance social learning often require the assistance of actors who are not from the community (Cundill 2010). In developing countries, such activities require resources to bring people together, support a range of participatory activities, and ensure power differentials are exposed and addressed (Brown et al 2008; Cundill 2010; McDougall et al 2013a). However, local communities and governments in developing countries sometimes do not have the resources to support social learning activities and broad-based collaboration and rely on outside agents such as NGOs (Brown et al 2008; Cundill 2010). By providing resources to meet the conditions of CFM agreements, NGOs may influence what is learned, who learns, and the consequences of learning for forest management.

The purpose of this article is to better understand the roles that NGOs play in shaping social learning among participations of CFM in a developing country context. We focus on the learning outcomes realized and the influence of this learning on forest management. We conducted an in-depth qualitative case study of Kapeka Integrated Conservation Development Agency (KICODA), a community based organization (CBO) formed by a forest-based community in Uganda. We distinguish between NGOs and CBOs: both work with the state and/or private sectors to manage resources, are non-profit, and often rely on external sources for funding (Hearn 2007; Tukahirwa et al 2011). CBOs are different from NGOs, however, in that

they originate from within a local community, are usually led by community members, are membership organizations, have a local scope of activities, interact frequently with community members, and have a more in-depth understanding of the local community (Tukahirwa et al 2011). On the other hand, NGOs work with, and have knowledge of, various communities with whom they usually work closely (Banks et al 2015) and generally have more resources than CBOs.

KICODA signed a collaborative forest management agreement (CFM agreement) with the National Forest Authority (NFA), the Ugandan state agency that oversees forest management, to manage part of Budongo Forest Reserve. KICODA was assisted in the implementation of the CFM agreement by several NGOs.

The next section reviews literature on social learning and NGO involvement in CFM in order to build a framework for analyzing NGO contributions to social learning. Next, we describe the methods used in the research, and the context and conditions of CFM in Uganda. In the results, we trace social learning outcomes and link them to specific activities of NGOs. We then consider the opportunities for and limitations of social learning when NGOs participate in CFM. Our conclusions identify the benefits of looking beyond local communities when seeking to understand the processes and outcomes of social learning and its potential to empower local residents to engage in CFM.

3.2 Social Learning, Non-Government Organizations, and Collaborative Forest Management

Social learning in environmental management is frequently characterized as a social process that takes place through participatory activities such as meetings, resource harvesting and

management, and resource monitoring (Cundill and Rodela 2012; Reed et al 2010). According to Brummel et al (2010, pg. 682), “A common thread within social learning theory is that groups of stakeholders are able to transform their perspectives, understanding, and behavior through learning in collaborative contexts.” Therefore, we consider social learning as people learning within a social unit through social processes such as participation (Diduck et al 2012; Reed et al 2010). What people learn can be cognitive (acquisition of factual knowledge), normative (changes in norms, values, or belief systems), or relational (building of trust and understanding of other worldviews) (Lebel et al 2010).

Social learning may be particularly important in CFM because participants have different values, knowledge levels, and needs, and have to work together to manage a common resource for the common good. In order to manage natural resources for a common good, individuals usually have to change their internal frames of reference. To advance the process of social change, it is necessary, therefore, for social learning during CFM to lead to action for the environment (Fernandez-Gimenez et al 2008).

Scholars studying learning in forest management have reported a range of learning outcomes such as a more positive attitude towards forest conservation in Kenya (Sinclair et al 2011), increased collective action in Bolivia (Biedenweg and Monroe 2013), and improved governance of forestry resources by local communities in Cameroon (Brown et al 2008). Additional outcomes of social learning include: improved problem solving capacity and improved decision making; changes in perceptions, values, and norms; awareness of environmental concerns; and collective action for the environment (Cundill and Rodela 2012; Lebel et al 2010). Only a few studies have examined the nexus between NGOs and learning (e.g., Biedenweg and Monroe 2013; Moyer et al. 2014), highlighting the roles they play in facilitating

learning for natural resource management. Instead, most studies have focused on NGO roles and examined their involvement in community development and government service delivery (Hearn 2007); the relationship between NGOs, donor agencies, and states (Banks et al 2015; Contu and Girei 2014); NGO governance (Barr et al 2005); the role of NGOs in environmental services delivery (Reed 1997); and community forestry implementation (Barsimantov 2010; Shandra 2007; Wright and Anderson 2013). However, even when NGOs are acknowledged as having a strong role in forest management, researchers studying forestry have not directly considered how they may influence social learning through CFM in a community context.

While researchers have found NGOs frequently support or implement projects that produce measurable results, they point out that these projects may not address the underlying causes of social or environmental problems (Contu and Girei 2014). Furthermore, a key challenge is that NGOs regularly obtain financial resources from donor agencies or private companies. Conditions attached to funding sometimes constrain NGOs' activities (Contu and Girei 2014; Shandra 2007). In addition, the pressure to obtain funds has led NGOs to implement projects that comply with donor agendas; consequently, projects become limited in scope or temporal scale and/or may become detached from the needs of local communities (Hearn 2007; Shandra 2007).

In spite of the shortcomings of NGO-supported interventions, there is evidence to show that their presence is associated with improved environmental outcomes. For example, scholars have found a positive relationship between increased NGO presence and activity and decreased deforestation (Shandra 2007; Wright and Anderson 2013). Scholars have also noted that NGOs contributed to forest regeneration in Nepal and India by facilitating the formation of forest user

groups and forest protection committees (Pretty and Ward 2001). By undertaking multiple roles in forest management, NGOs can support activities that lead to social learning outcomes.

Drawing on studies in natural resource management more broadly, we identified five possible roles of NGOs in support of CFM to sustain environmental, social, and cultural values: advocacy, funding, capacity building, research, and monitoring (Banks et al 2015; Barr et al 2005; Barsimantov 2010; Contu and Girei 2014; Hearn 2007; Reed 1997; Shandra 2007).

Advocacy includes lobbying government for (a) funds to implement community-based projects, and (b) policy changes that support local communities. Funding includes (a) providing funds for activity implementation or equipment purchase, (b) providing in-kind supplies, and (c) hiring staff to work with communities. Capacity building includes (a) training community members in governance, management activities, and policy interpretation/implementation, and (b) raising awareness and/or building support in the community about the natural environment. Research includes collecting and analyzing data to track effects of CFM interventions. Monitoring includes monitoring compliance with governmental laws. NGOs may take up any one, or all five roles in supporting CFM implementation.

NGOs at different levels have different foci and opportunities to attract funding. These differences influence both the nature of the projects they undertake at the local level, the conditions for activities, and consequently, the learning opportunities they stimulate locally. In our case, because residents formed the CBO, KICODA, to represent residents in a CFM Agreement with the NFA, we have considered KICODA to be the organization that represents the forest community or social unit engaged in governance and learning. We then consider the learning that occurs within KICODA, as a result of interactions with four NGOs operating in the region.

3.3 Approach

This study used a qualitative methodology involving in-depth analysis of a CBO formed by a forest-based community, KICODA. Following a preliminary review of CFM arrangements in Uganda, KICODA was selected for study because it: (1) was adjacent to Uganda's largest forest reserve; (2) was formed by forest-based communities to enable them to work with government in order to undertake collaborative and sustainable forest management; and (3) had been operating long enough that governance and management processes had matured and outcomes could be identified.

Data were collected by the lead author using personal interviews of local people, interviews with representatives from government and NGOs, focus group meetings, and participant observation. Three guided forest walks were also conducted to familiarize the lead author with the ecology of the forest as well as to observe ongoing activities. Personal interview participants were identified using the snowball method. Members of the executive committee of KICODA were contacted and interviewed first, and each was requested to suggest the names of two other KICODA members for interview. A semi-structured interview guide was used. Interview questions were designed to obtain information on what activities people participated in, what they learned, how they learned, and whether they thought the forest was being effectively managed. All interviews were recorded with the consent of the interviewees. Personal interviews lasted one hour on average. Male and female translators were used for interviewees who did not know English or who were not comfortable speaking English. Thirty-one people were interviewed, of whom 17 were male and 14 were female. Ten of the 31 interviewees were members of the KICODA executive committee, 19 were regular members, and two were not members. Six persons from government and NGOs were also interviewed: two each from the

NFA and Community Conservation and Development Agency (CODECA), and one each from the Jane Goodall Institute and Budongo Conservation Field Station. These interviews explored the role of government and NGOs in CFM.

Additionally, five focus group meetings were held in the village: two all-female, two all-male, and one mixed. Focus group participants were recruited from the 31 people who were interviewed. The focus group meetings were used to confirm themes found in the data from the personal interviews and to find out KICODA's future plans. Meetings lasted from one to two and a half hours. All focus group meetings were audio-recorded with the consent of participants. All interviews and focus group discussions were transcribed verbatim, exported to NVivo, and coded. Data were analyzed following an inductive approach whereby themes that emerged from analyzed data guided analysis in conjunction with information from reviewed literature (Miles and Huberman 1994). Researchers of social learning have documented outcomes around variables such as knowledge acquisition, technical skills acquisition, social skills development, activity implementation, development of relationships, behavior changes, and changed or new values/assumptions (Biedenweg and Monroe 2013; Cundill 2010; Fernandez-Gimenez et al 2008; Rist et al 2007). These learning outcome variables were linked to activities according to five possible NGO roles in collaborative forest governance as outlined above. The NGO roles identified from literature (i.e., advocacy, funding, capacity building, research, and monitoring) were used to examine the relationship between the activities that KICODA implemented and NGO support, and to link these activities to social learning outcomes.

3.3.1 Collaborative forest management in Uganda

Uganda has a population of approximately 34.8 million, of which 85% is rural (Uganda Bureau of Statistics 2014). Most rural people depend on forests for their daily livelihoods (Food and Agriculture Organization 2010). The Ministry of Water Land and Environment supervises the NFA, a semi-autonomous body in charge of forest management in Uganda. Ugandan forest-based communities have typically harvested forest products for generations. The creation of central forest reserves made access to forest resources illegal for most communities (Otieno and Buyinza 2010). However, many people in forest-based communities are poor and continue to harvest forest resources for their livelihood, albeit illegally. After decades of conflict, with an increasing population in forest-based communities and the creation of new communities, the NFA recognized that forest-based communities should be allowed to access forestry resources. The NFA also realized that these communities could assist with management. CFM agreements were seen as the means to achieving their involvement.

According to the Uganda Forest Policy, “Collaborative forest management means that local communities are genuinely involved in the management of the forest resource through a negotiated process in which rights, roles, responsibilities and returns for the sustainable management of such forest resources are shared” (Ministry of Water Land and Environment 2001, Glossary). CFM is operationalized through CFM agreements with CBOs formed by forest-based communities. Local communities are required to form CBOs in order to negotiate and sign a CFM agreement. Since most CBOs do not have the technical or financial resources to negotiate an agreement, they are assisted by national and international NGOs. The most recent data available indicates that since its inception in 1998 as a pilot program, 38 CFM agreements have been signed; 108 CFM agreements were still pending approval (*pers. Comms.* Fiona Driciru,

2013). An external evaluation of CFM in Uganda has revealed benefits that include improved forest health and improved relationships between forest-based communities and the NFA (Blomley and Nyiramahoro 2011).

When setting up the policy framework for CFM, the Ministry of Water Land and Environment acknowledged that the national government did not have the resources or capacity to implement CFM at the community level. They also recognized that NGOs could help to fill these gaps. The Uganda Forestry Policy thus makes explicit provisions for the involvement of NGOs in the forest sector as follows: (1) mobilizing and sensitizing local people; (2) strengthening civil society; and (3) supporting civil society participation in forestry management (Ministry of Water Land and Environment 2001). Hence, national government agencies see NGOs as important CFM implementation partners (Ministry of Water Land and Environment 2001).

3.3.2 Kapeka Integrated Conservation Development Agency

KICODA was registered as a CBO in 2005 by the residents of Kapeka village. Kapeka has a population of about 3,000 people and is located along the south-eastern border of Budongo Forest. Budongo Forest is located about 240 km northwest of Kampala. Budongo was gazetted as a central forest reserve in 1932 and, at 835 square kilometers, is the largest central forest reserve in Uganda. It has species like chimpanzees that are internationally protected. It is well known for its mahogany (e.g., *Khaya anthotheca*) and ironwood (*Cynometra alexandrii*) species. Budongo is divided into compartments; KICODA signed a CFM agreement with the National Forest Authority to manage compartment W24, which is 767.70 hectares in size and adjacent to Kapeka village.

KICODA is a membership-based organization; membership is individual and permanent. The membership fee is a one-time payment of five thousand Uganda shillings (equivalent to \$1.50 US in 2015). In order to be a member, one has to be a resident of Kapeka village. An executive committee made up of six men and six women run KICODA. KICODA also holds annual general meetings that are open to the public, but where voting is restricted to members.

KICODA signed the CFM agreement with the NFA in 2005. The objectives of the KICODA CFM agreement are: (1) conserve the forest biodiversity; (2) protect the forest from illegal activities; (3) improve the people's income through forestry activities; (4) contribute to improved livelihoods of the people of Kapeka; (5) ensure regeneration of the forest; and (6) sensitize people about forest management. These objectives guided the kinds of activities that government and NGOs supported in KICODA. NGOs helped KICODA to better understand the Uganda Forestry Policy with specific initiatives to address its three core elements related to public involvement: mobilizing and sensitizing local people, strengthening civil society, and supporting civil society participation in forestry management. These NGOs also helped KICODA by playing the roles identified from published literature as established further in the results below.

3.4 Results

3.4.1 Non-governmental organization roles in collaborative forest management

KICODA, like other Ugandan CBOs, lacks the financial and human resources required to meet obligations under their CFM agreement. As a result, interviewees reported learning from activities that were mostly organized and implemented by NGOs working in the area. They also reported learning from NFA activities and from cross-site visits with other CBOs involved in

CFM. Figure 3.1 summarizes the roles of the main NGOs working with KICODA. The figure also provides a list of some activities that KICODA implemented and associated social learning outcomes identified by interviewees.

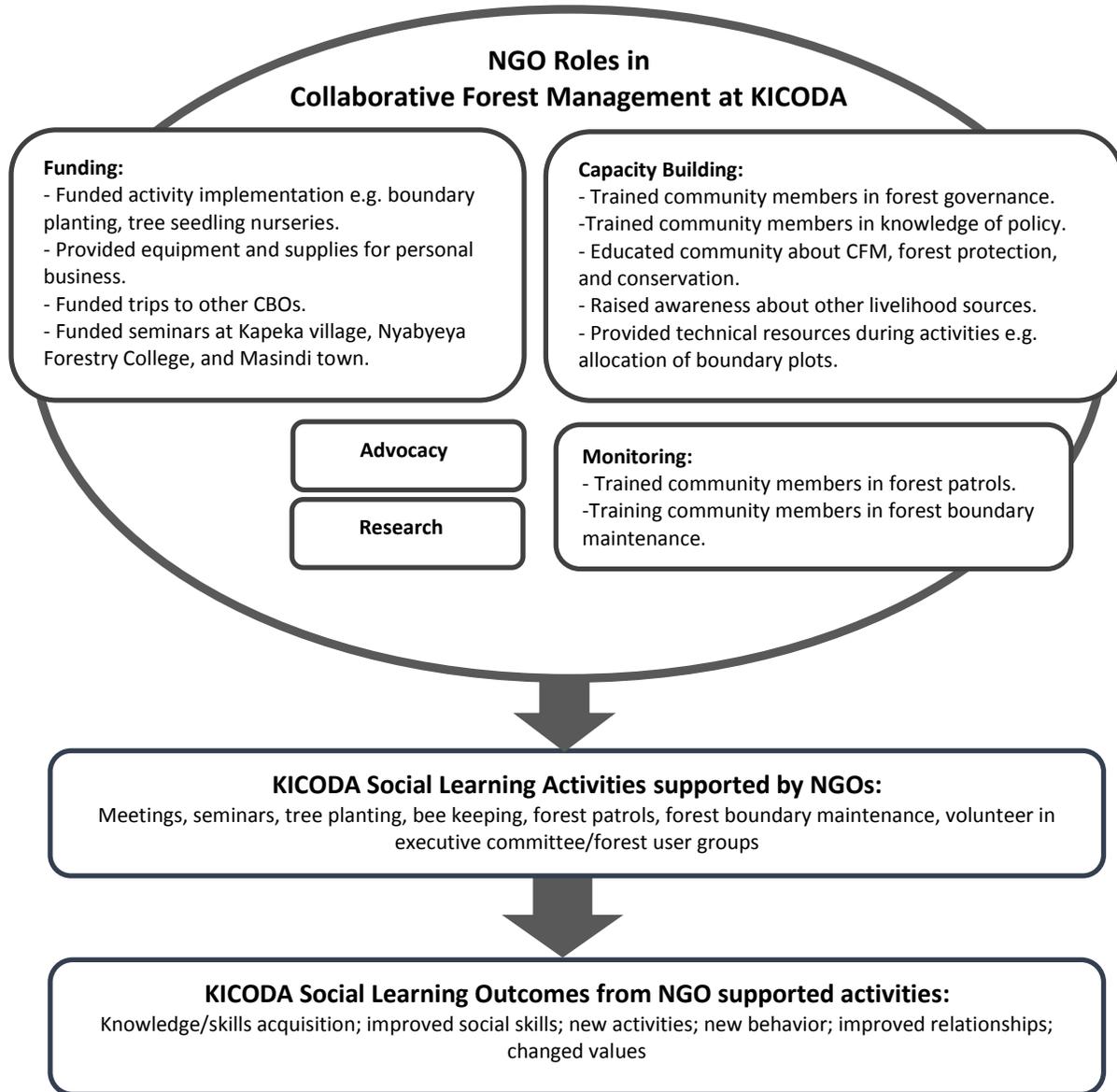


Figure 3. 1. The influence of non-governmental organizations in social learning in collaborative forest management at Kapeka Integrated Conservation Development Agency, Uganda

Data revealed that NGOs at KICODA were involved in three of the five roles identified from the literature: funding, capacity building, and monitoring. NGOs at KICODA were not supporting activities related to two roles - advocacy or research. There were several NGOs that worked around Budongo Forest. Table 3.1 summarizes the key characteristics of the four NGOs most often identified as working with KICODA by KICODA interviewees and NFA employees. The four NGOs are: CODECA, Budongo Conservation Field Station (BCFS), Jane Goodall Institute (JGI), and Environment Conservation Trust Uganda (Ecotrust). Each is described briefly below.

Table 3. 1. Summary of information about non-governmental organizations working with Kapeka Integrated Conservation Development Agency

| NGO | CODECA | BCFS | JGI | Ecotrust |
|--|-----------------------------|--------------------------------------|------------------------------------|--------------------------------------|
| # of times mentioned by interviewees (N = 31) | 10 | 4 | 3 | 4 |
| # of times listed by focus groups (N = 5) | 5 | 4 | 1 | 4 |
| Listed by NFA managers | Yes | No | Yes | Yes |
| Type of NGO | National | National | International | National |
| Funding source example | CARE | Royal Zoological Society of Scotland | Public donations, IUCN, REDD, CARE | REDD, World Wildlife Fund, IUCN |
| Location of NGO office | Masindi town | Budongo Forest | Hoima town | Entebbe town |
| Approximate distance from NGO office to Kapeka village | 30 km | 16 km | 60 km | 310 km |
| NGO mandate | Training, capacity building | Research, conservation | Research, conservation, education | Sustainable environmental management |
| Status of support to KICODA | Ceased in 2012 | Ceased in 2012 | Ceased in 2010 | Ongoing |

Notes: CODECA = Community Development and Conservation Agency; BCFS = Budongo Conservation Field Station; JGI = Jane Goodall Institute; Ecotrust = Environmental Conservation Trust Uganda.

Source: Interviews by lead author and NGO websites

CODECA is well known in the villages around Budongo Forest and has participated in the initiation, negotiation, and signing of over 15 CFM agreements including KICODA's. KICODA interviewees acknowledged that the idea of developing a CFM agreement with government was brought to them by CODECA. CODECA supported KICODA activities related

to capacity building, funding, and monitoring. CODECA is the NGO that has supported KICODA for the longest period of time. They also provided the most funding for activities.

BCFS runs a field research station for local and international researchers. BCFS's original focus was chimpanzee research, but this expanded to include community engagement because Field Station employees realized that community activities affected chimpanzee conservation. BCFS is funded by NGOs, government departments, and businesses mostly located in Western Europe and the USA. BCFS supported KICODA through capacity building and funding. According to participants, they influenced social learning through sensitization about chimpanzees, training, and providing equipment for tree grafting activities. Of the four NGOs, BCFS supported the least number of activities.

JGI supported activities through three roles: funding, capacity building, and monitoring. Some of JGI's activities with KICODA included: (a) training in nursery operations, tree planting and management, and apiculture; (b) training and providing start-up materials like bee hives and protective gear for honey harvesting; (c) creating environmental awareness; (d) training in small business management and record keeping; and (e) supporting joint forest patrols with the NFA.

Ecotrust supported KICODA through capacity building and funding. Ecotrust seems to have been the most recent NGO to start working with KICODA. In this short time, Ecotrust has provided a lot of support through capacity building and funding, especially in relation to activities that enhance personal livelihoods and generate income to support KICODA as an organization. Ecotrust appears to be the only organization that continued supporting KICODA past 2010.

3.4.2 Activities supported by non-governmental organizations and associated social learning outcomes

Through playing the roles outlined in Figure 3.1 and as described above, NGOs supported nearly all the activities implemented by KICODA during CFM. Table 3.2 provides a list and description of activities that KICODA implemented. From both personal and key person interviews, CODECA and Ecotrust were found to be the most active NGOs supporting KICODA activities.

Table 3. 2. Description of some of the activities implemented by Kapeka Integrated Conservation Development Agency with the support of non-governmental organizations

| Activity type | Activity Description | Participants N=31 | NGO linked to activities |
|---------------------|---|-------------------|--------------------------|
| NTFP harvest | Individual and contributes to family livelihoods: firewood, thatching grass, vegetables, craft materials, etc. | 31 | CODECA |
| Seminars/ training | On-site and off-site training seminars on forestry by-laws, patrolling, business management, bee keeping, etc. | 30 | JGI, BCFS, Ecotrust |
| Meetings | Executive committee meeting, women’s group meeting, workshops, planning meetings. | 28 | CODECA, Ecotrust, |
| Business activities | Personal business e.g. bee keeping, tree planting, goat rearing, chili growing, etc. | 27 | Ecotrust, CODECA |
| Forest management | Enrichment planting, afforestation, boundary planting, forest patrols, forest boundary maintenance. | 24 | CODECA, Ecotrust, JGI |
| Networking | Visited other CBOs in Rakai and Bushenyi to learn from them. | 7 | CODECA |
| Paid activities | Access National Forest Authority contracts e.g. road construction. KICODA is paid a portion of the contract fees. | 3 | JGI |
| Timber harvest | Logging, one license ~4 months long. | 2 | n/a |
| Other activities | Established three seedling nurseries, held one fund raiser, mobilized community to access other funds. | 23 | Ecotrust, CODECA |

Notes: n/a = not applicable; CODECA = Community Development and Conservation Agency; BCFS = Budongo Conservation Field Station; JGI = Jane Goodall Institute; Ecotrust = Environmental Conservation Trust Uganda; Non-Timber Forest Products (NTFPs).

The harvest of Non-Timber Forest Products (NTFPs) is included in Table 3.2 because NGOs, especially CODECA, worked to sensitize Kapeka village residents about sustainable harvest and forest laws. Apart from harvesting NTFPs, the most common activities were meetings and seminars. These were mostly held at the Catholic Church compound in the village

center. All interviewees said the village meeting venues were easily accessible, but three women admitted that poor health limited their ability to participate in some meetings. However, one of the three women (a member of the executive committee) described how she was often updated by other members. Most meetings averaged two to three hours. Seminars lasted from two hours to eight hours as illustrated by the following description:

No, sometime it [meeting/seminar] can be just for two hours. Because it depends. Sometimes when these people [NGO staff] tell us we go and train them on such and such an activity, they give some money. Then you come and prepare these chapattis plus tea, you buy sugar, then they can stay for two to three hours ... there is a time when we were doing by-laws here. So Ecotrust sponsored lunch for them, the whole day. We started at around half past eight, we ended at around four. [Female participant]

Other interviewees also described how Ecotrust supported activities related to training people in conflict resolution, bee keeping, and other activities. As participants described:

Ecotrust came and trained the communities here how to make nursery beds. They brought materials like drum, spade, these water carriers—jerry cans, hoes for nursery bed management. Then they brought soil from the lakeside, which was supposed to be mixed with some soil from where those mature pines are ... then they started teaching the communities how to pot those soils, after potting, watering, then how to put those seeds. Then those seedlings germinated. Then we sold—the first one was sold. Then the second one [lot of seedlings] ... we distributed some to the communities. Then the third one [lot of tree seedlings]

really lacked market. So that one we distributed all to the communities. [Female participant]

Ecotrust came and trained people on how to do bee keeping and also sensitized the community on conflict resolution. And also how to conserve natural resources, and also the benefits. Also carrying out activities like planting on the boundary, they taught us. [Male participant]

From the above examples, we see how Ecotrust supported a variety of CFM activities and learning opportunities at KICODA.

CODECA contributed to social learning at KICODA through supporting meetings, holding training seminars, and supporting hands-on activities. In addition, interviewees said CODECA organized seminars on subjects related to forest conservation, CFM, and alternative livelihood sources. An interviewee summed up CODECA's role when he stated, "KICODA learned about CFM ... from CODECA." More interviewees provided details of the activities that CODECA supported:

They [CODECA] taught us about the importance of forest. Then why we should protect it, then the benefits. [Male participant]

They [CODECA] came and trained us how to do bee keeping. We didn't know that bees had other uses... You can make candles from it. [Male participant]

They [CODECA] taught us about office structures and leadership structures right from the chairperson up to the various organs and how it should be. And how we should hold meetings, even including annual meetings. [Male participant]

CODECA ... taught us about lobbying and advocacy plus fund raising. [Male participant].

In addition to supporting meetings and seminars, CODECA sensitized people about harvesting sustainably from the forest.

BCFS provided KICODA with resources for planting fruit trees and also trained local people in tree grafting. For example, an interviewee described “Another thing was the grafted fruits, the mangoes and avocados. These were brought by these people of Budongo Forest Project and then they trained us to do grafting so that we were able to get more.” However, three interviewees who mentioned attending the seminar on grafting could not remember the organization that had provided the training or the resources. Tree grafting was one of the uncommon activities that was requested by KICODA and seemed not to fall within BCFS’s planned activities. BCFS held seminars on topics that were particularly relevant to communities adjacent to the forest. Living next to the forest meant that people had to deal with various issues including that of problem animals. For example, a male interviewee mentioned, “There was Budongo Field Station which sensitized us about problem animal management.” These examples show that BCFS supported social learning related to knowledge and skills acquisition (Table 3.2).

JGI supported meetings, seminars, personal livelihoods, and forest monitoring. In describing activities that the Institute supported, participants reported:

They [JGI] came and taught about everything. They taught about protecting and looking after the forest. [Female participant]

... Jane Goodall Institute came in and brought about four beehives; those ones were supposed to be sited specifically for the office. Then they brought more [honey] harvesting gears. That’s when people started harvesting... training on bee keeping was done three times. The first one was organized by Nyabyeya Forestry

College ... another one was organized by NFA ... the other one was by JGI.

[Female participant]

The Institute also trained and supported KICODA forest patrollers to track illegal activities, as described by an interviewee:

We were recruited as patrol men. We did interviews, we went to Kolping [Hotel] from there to the College [Nyabyeya Forestry College]. Later on we were declared patrol men but under the guidance of JGI ... [Male participant]

JGI is one of two NGOs that trained KICODA to monitor the forest. JGI's representative said that the forest bordering Kapeka had fewer incidences of illegal activities compared to areas where CBOs are not engaged in CFM because KICODA members patrol the forest.

The kinds of social learning outcomes described by interviewees were classified according to the seven variables identified in natural resource management literature (Table 3.3).

Table 3. 3. List of social learning outcomes identified by community members through collaborating in Kapeka Integrated Conservation Development Agency activities while working with non-governmental organizations

| No | Outcome from published literature | Learning reported during KICODA personal interviews |
|---|-----------------------------------|--|
| Social learning outcomes directly linked to NGO supported activities at KICODA | | |
| 1 | Knowledge acquired | Forest ecology and conservation, collaborative forest management (CFM), protected species e.g. chimpanzees Small business management, fund raising, good farming practices |
| 2 | Technical skills acquired | Tree planting, bee keeping, forest patrolling, tree nursery set-up and management |
| 3 | Social skills developed | Working with similar organizations |
| 4 | Action/Activities implemented | Forest patrol independent of National Forest Authority Using boundary plot farming for forest patrol |
| Social learning outcomes resulting from long-term involvement in CFM | | |
| 5 | Relationships improved/developed | Improved relationships with National Forest Authority officials |
| 6 | Shared understanding | Shared understanding about sustainable utilization of forestry resources |
| 7 | Values/Assumptions | Changed behavior – no longer logging illegally/Reported illegal activities to National Forest Authority Changed values about trees and forests Changed assumptions about the value of species e.g. chimpanzees |

Sources of variables: Biedenweg and Monroe 2013, Cundill 2010, Fernandez-Gimenez et al 2008, Rist et al 2007.

The most common social learning outcomes were related to variables #1 to #4 - knowledge and skills acquisition. Knowledge acquisition was mentioned by 30/31 interviewees. Participants described learning about forestry, agroforestry, and conservation through participating in the CFM. Skills acquisition was the next most commonly-described social learning outcome. The most frequently mentioned skills were tree planting (27/31 people), bee keeping (21/31 people), and tree seedling nursery management (17/31 people). People also learned other skills including small business management.

It was harder to link social learning variables #5 to #7 to specific NGO activities, as they are long-term effects and likely cumulative. For example, with regard to variable #7, values/assumptions, an interviewee described being sensitized to the intrinsic values of primate species and how her perception of chimpanzees changed as a result. KICODA members seemed to have developed a shared understanding of CFM (variable #6) because interviewees who had not planted trees were aware of tree planting initiatives and forestry regulations. They were also aware that forest resources were not limitless and needed to be used sustainably. In addition to knowledge and skills acquisition, interviewees described how their relationship with the NFA evolved and became less confrontational as they learned more about Budongo Forest and CFM.

3.5 How Non-Governmental Organizations are Impacting Social Learning and Contributing to Collaborative Forest Management

KICODA's CFM agreement required that KICODA contribute to the protection, conservation, and management of Budongo Forest. Not surprisingly, when asked what they had learned through participating in KICODA, interviewees described learning about forest ecology, forest and wildlife conservation, and forest management. Most of this learning was at the cognitive

level related to the acquisition of knowledge and skills but we also found some examples of normative and relational learning outcomes (Lebel et al 2010). We confirmed that much of this learning was enabled through the support of NGOs that initiated activities in relation to three primary roles they filled: funding, capacity building, and monitoring. NGO contributions could best be linked to activities associated with the cognitive level of social learning as illustrated by knowledge and skills acquisition as shown in the data above. NGOs funded activities and supplies (e.g., beehives, seedlings) that fit within KICODA's CFM agreement objectives, summarized as protection, conservation, management, and alternative livelihoods. Hence, social learning at KICODA was influenced by two sets of actors: the NFA who provided the policy framework and specifically promoted the participation of NGOs; and NGOs who helped implement CFM agreements through funding, capacity building, and support for monitoring.

There are at least two limitations to NGO support for social learning at KICODA. First, there was a lack of NGO support for two NGO roles, advocacy and research. Both BCFS and JGI engage in research; they collect data and produce knowledge. However, neither NGO engaged KICODA in research. KICODA members may produce knowledge differently—their knowledge may not be considered 'scientific'—but local forest-based communities have traditional forest knowledge that is relevant for forest management (see, for example, Parrotta and Trospen 2012; Pohl et al 2010). By not contributing to the research role, NGOs may be denying KICODA members the opportunity to be citizen scientists or engage in the co-production of knowledge and consequently, these NGOs are likely restricting learning opportunities and outcomes. NGOs may also be missing the opportunity to tap into the traditional forest knowledge that KICODA members have.

The second limitation is that even though KICODA has learned and contributed to managing Budongo Forest, KICODA is not learning to operate more independently. Indeed, KICODA members appear to be very dependent on NGOs for CFM implementation. As a key person interviewee pointed out, KICODA produced results, and NGOs like working with CBOs that produce results. Other researchers have also found that NGO support was concentrated where forest-based communities were successful at implementing activities (see, for example, Barsimantov 2012). Since 2005, when KICODA signed the CFM agreement, KICODA has implemented several activities—meetings, planting trees, growing and selling tree seedlings, etc. Virtually all of these activities were funded by NGOs.

Interviewees and focus group participants noted that the frequency and intensity of KICODA activities has dropped since 2012. Their activity levels dropped so drastically that KICODA had not held a training seminar for the 12 months preceding the field study, and only three people had attended an externally-arranged skills training workshop in the same period. The failure of KICODA to support its own activities after more than seven years of NGO support may be due to KICODA's expectations—that they will always receive external support. It could also be due to KICODA's income generating model. Membership fees are paid once, but each member is also supposed to pay an annual fee; the organization has failed to enforce this. Members are also supposed to pay a portion of the income they earn from selling trees, but most people's trees have not reached the harvesting age. Hence, there is no effective local mechanism to provide revenues to support present-day activities. The failure of KICODA to support its own activities could also be attributed to NGOs concentrating on meeting NGO targets, resulting in the implementation of activities that do not enable growing independence in the supported CBO.

This criticism is not to say that learning did not occur prior to this period and is still not occurring. Several NGOs enabled KICODA to meet the objectives of its CFM agreement. By supporting activities that encouraged social learning, they also contributed to CFM. The finding at Budongo is consistent with a broader study by World Wildlife Fund (WWF) Uganda that assessed Ugandan CFM agreements. WWF Uganda found that where there were active CBOs, there were fewer illegal activities and forests were better protected (Blomley and Nyiramahoro 2011). Blomley and Nyiramahoro (2011) also found that there was an improvement in the relationship between the NFA and local communities that have signed CFM agreements, an observation frequently reported by study interviewees. In summary, the NFA has limited resources, so CFM agreements, supported by the efforts of CBOs and NGOs working together, have been crucial to the management and protection of Budongo Forest.

We also found that NGO support was crucial to CFM at Budongo because KICODA members had no formal education or experience in forestry. By playing various roles (i.e., funding, capacity building, and monitoring) the NGOs were able to support activities at KICODA. Through working with these NGOs, KICODA members acquired knowledge, skills, and the shared understanding necessary for CFM implementation. There was also evidence that such learning had become embedded within the local organization. For example, KICODA members were still carrying out forest patrols to deter illegal activities long after financial support (from JGI and the NFA) for allowances ceased. KICODA members knew that to protect the forest, they had to deter illegal activities, even at a direct personal cost. Additionally, KICODA had requested two NGOs (BCFS and Ecotrust) to support activities that originated within KICODA. In making these requests, KICODA showed that they had acquired knowledge, implemented activities, reflected on their activities, developed a shared understanding of the

things they needed to do, and then implemented new courses of action—thus, illustrating learning had become embedded in the social unit. However, KICODA’s learning was constrained by (a) funding limitations (duration and scope) of the NGOs and (b) involvement in some, but not all, potential NGO roles specified for social learning.

3.6 Conclusions

We set out to explore how NGOs shaped social learning outcomes during CFM implementation in a developing country setting. We found that the objectives in the CFM agreement under study helped establish the framework for learning in that they promoted change in the current system toward forest protection, conservation of local resources, and the sustainable management of multiple resources from forests. Hence KICODA members acquired knowledge, technical and social skills; they also implemented new activities, improved their relationship with the NFA and developed a shared understanding of CFM. The details of what CBO members learned was strongly influenced by the activities that NGOs opted to support and that were required by government, rather than by a set of needs or interests expressed by local communities (see also Barr et al 2005; Hearn 2007). In KICODA, these activities focused on knowledge and skills acquisition related to forest protection and resource management practices that would offer alternative livelihoods and reduce forest exploitation.

Our study suggests that NGOs have taken up the roles that government is unable to fulfill in CFM through funding, capacity building, and monitoring. However, most of the learning opportunities appear to serve as one-way interactions whereby NGOs offered funding and training to enhance the learning of community residents. Opportunities for two-way learning that also inform NGO ways of knowing and doing appear to be missing. For example, activities

associated with the establishment of forest patrols could easily have translated into initiatives that could support ongoing learning and co-production of knowledge. Such monitoring initiatives could provide opportunities for the *joint* setting of research questions that might support both communities and NGOs with a research mandate. Part of this gap may arise because some of the NGOs (e.g., Ecotrust) do not have a research focus while others do (e.g., BCFS). Parrotta and Trostler (2012) documented cases from Africa where forest-based traditional knowledge was used to inform and guide the sustainable utilization of forest products. Platforms for social learning that engage both researchers and community members could be developed through deliberative research methodologies such as participatory action research (McDougall et al 2013a), knowledge co-production (Pohl et al 2010), citizen science (Reed and McIlveen 2006), or community-based research (Stoecker 2009). Such strategies have the potential to broaden the range of participants who learn to include NGOs and to deepen social learning from simply focusing on improving management techniques towards reflecting on goals/values/beliefs and implementing collective action.

Given the present patterns of funding and local capacity, we found that NGOs in Uganda have come to occupy a niche created through a permissive government forest policy. In our case, however, KICODA, became so dependent on NGO support that when the NGOs' support reduced, KICODA's activities nearly ceased. Although we found that KICODA engaged in social learning through a range of activities and showed numerous social learning outcomes, KICODA's learning was mostly cognitive - knowledge and skills acquisition—and remained heavily dependent on NGOs for activity implementation. A review of articles on social learning in natural resource management show knowledge and skills acquisition to be the most common social outcomes (Brown et al 2010; Fernandez-Gimenez et al 2008; Leys and Vanclay 2010; Rist

et al 2007; Schusler et al 2003). Outcomes rooted in higher levels of social learning, such as the development of a shared understanding, or changed values and assumptions, are less common (Biedenweg and Monroe 2013; Brummel et al 2010; Fernandez-Gimenez et al 2008). However, it is the latter kind of learning outcomes that enable a social unit or organization to have a measure of independence. NGOs probably need to support the kind of social learning at KICODA that would lead to greater autonomy for implementation of CFM. This could be done by working with KICODA to identify long-term income-generating activities such as the establishment of a trust fund or the establishment of forest-based business activities that can support KICODA and community initiatives.

Social learning in CFM is important because strategies that provide for social learning also allow forest-based communities to develop the skills and capacity to manage forest resources both collaboratively and sustainably. The question of *who* influences social learning in CFM in developing country settings is also important because whomever has the power to influence social learning during CFM ultimately influences both the specific activities and their longevity. To date, research about social learning has focused primarily on local community actors. The roles played by NGOs that operate within and beyond the local community have not been systematically explored. Our research begins to explore the multiple layers of social learning, in keeping with the observation of Berkes (2010) of the multi-layered aspects of environmental governance and learning. NGOs are acting as change agents during CFM implementation by KICODA. However, to become agents of transformation, CBOs and NGOs must find ways to co-produce knowledge and jointly determine which platforms will best serve local people. Future research will need to explore strategies by which NGOs can support social learning in forest-based communities that allows for CFM implementation, which in turn

supports knowledge co-production and a greater role for local communities in setting opportunities for learning and management. In addition, future research could also explore ways in which NGOs could empower CBOs to initiate research and maintain CFM arrangements independently.

**PREFACE TO CHAPTER 4 - SOCIAL LEARNING BY WHOM?
ASSESSING GENDERED OPPORTUNITIES FOR PARTICIPATION AND
SOCIAL LEARNING IN COLLABORATIVE FOREST GOVERNANCE**

Researchers argue that processes that enable social learning have the potential to contribute to the sustainable management of forests by engaging local people, helping them identify their collective needs and gain access to resource entitlements and encouraging them to learn about and implement different management options. Gender has been found to be a constraint to participation in forest governance. While there is attention to gender in collaborative forestry literature, there is relatively little attention to gender in the social learning literature.

The purpose of this chapter was to better understand how gender affects social learning and collaborative forest governance in forest-based communities in Canada and Uganda through addressing the third objective of this thesis which was to examine constraints to participation and learning opportunities that men and women faced in forest governance. Although the third objective was the focal point of this chapter, the first and second objectives were also addressed. Results show that most participants in both countries started engaging in collaborative forest governance with limited knowledge and learned as they participated in various activities, this finding was also reported in chapters two and three. However, this chapter's results show that social learning opportunities and outcomes were affected by gender. In addition, social learning opportunities and outcomes were also affected by the values that people held as well as education and literacy levels.

Chapter 4 has been submitted to *Ecology and Society* and is under review. See Egunyu, F. and Reed, M.G. Social learning by whom: Assessing gendered opportunities for participation and social learning in collaborative forest governance.

CHAPTER 4 - SOCIAL LEARNING BY WHOM? ASSESSING GENDERED OPPORTUNITIES FOR PARTICIPATION AND SOCIAL LEARNING IN COLLABORATIVE FOREST GOVERNANCE

Abstract: Collaborative forest governance enables forest-based communities access to and management responsibilities for forestry resources. Researchers argue that processes that enable social learning have the potential to contribute to the sustainable management of forests by engaging local people, helping them identify their collective needs and gain access to resource entitlements and encouraging them to learn about and implement different management options. While there is considerable attention to gender in literature on collaborative forestry, particularly in developing countries, there is relatively little attention to gender in social learning literature. Furthermore, there is almost no attention to these issues in post-industrial countries. The purpose of our study was to better understand how gender affects social learning and collaborative forest governance in forest-based communities in Canada and Uganda. Results show that most participants in both countries started engaging in collaborative forest governance with limited knowledge and learned as they participated in various activities. However, we found that social learning opportunities and outcomes were affected by gender, in addition, they were also affected by the values that people held, education, and literacy. We suggest that practitioners should consider gender and other axes of difference if they want to design collaborative forest governance initiatives that are both participatory and inclusive.

4.1 Introduction

Collaborative forest governance, whereby communities work within a government policy framework to manage forest resources, has emerged to involve stakeholders within forest-adjacent communities to participate in, and benefit from, forestry activities that provide sustainable livelihood opportunities (Pagdee et al 2006; Charnley and Poe 2007). Members of local communities are considered key participants because they can provide contextual knowledge about forest resources, express diverse needs and values, and are the direct beneficiaries of the resource or bear the direct costs of resource protection and use (Brown et al 2008; Larson and Soto 2008). But the involvement of communities is not sufficient; research in resource management has suggested that groups engaged in collective action must also engage in learning if collaborative arrangements are to provide those groups environmental, social, economic and cultural benefits from lands and resources (Rist et al 2007; McDougall et al 2013a,b).

To date, we do not know much about how women and men engage learning processes that become available through collaborative forestry governance. Yet, forestry remains a resource sector where opportunities for employment, decision-making and benefit sharing vary significantly for women and men (e.g., Mai et al 2011; Reed 2003, 2008). As the platforms for participating in collaborative forest management are not equally accessible, it is reasonable to ask whether the opportunities for and outcomes of social learning are also variable. Despite these documented inequalities in forest management, there is almost no research explaining how learning processes are gendered. This is surprising since the literatures on social learning focus on conditions by which fair and effective deliberation can be achieved at the community level (see Rist et al 2007). Exceptions have focused on how social learning in collaborative resource

governance can improve outcomes for women and other disadvantaged groups (McDougall et al 2013a, 2013b; Wollenberg et al 2001).

In a study of participation in collaborative forest governance we conducted in Uganda and Canada, we found women and men reported that they took part in different activities, learned different lessons related to collaborative forest management and experienced different sets of motivations, enablers, and constraints. We turned to literature on social learning in community-based natural resource management to help us interpret these findings. However, there is very little research that specifies *who* participates in activities that might encourage social learning and collective action. Instead, we found calls for more research. For example, Armitage et al (2008) indicated a need for greater “consideration of the role of power and marginality among groups participating in the learning process”. His observations were emphatically endorsed by McDougall et al (2013b) who suggested that prior to sharing benefits associated with collective resource entitlements, participants in collaborative forest governance may first need to learn about inequalities within their community. Their work was confirmed by Shaw and Kristjanson (2014) who found that gender asymmetries in ‘development’ projects of the global south meant that women typically had fewer financial and other assets for adapting to environmental and social change, and fewer opportunities to contribute their knowledge to decision-making and governance processes. After conducting a review of nine participatory projects in agriculture, livelihood and climate adaptation in developing countries, they concluded that focusing attention on socially-differentiated groups can bring substantive knowledge into collaborative resource management settings, enhance adoption of new strategies, improve collective understanding of environmental conditions and government policies, and mobilize knowledge through underutilized networks. These insights led us to explicitly reconsider our data with a focus on

how men and women got involved in social learning opportunities provided through collaborative forest governance in each setting.

Hence, the purpose of this paper is to document social learning experiences and outcomes of men and women engaged collaborative forest governance. We address the following questions:

1. Through what activities did men and women gain access to social learning opportunities as they participated in collaborative forest governance?
2. What learning outcomes did men and women report when they engaged in collaborative forest governance?
3. What factors enabled, motivated, and constrained participation and social learning by women and men?

Our paper addresses these questions by way of two case studies of collaborative forest governance in Canada and Uganda. Our aim is exploratory and illustrative, not comparative. We are not trying to generalize to all situations in post-industrial and developing countries, but rather to identify and highlight issues related to gender, participation and social learning in collaborative forest management that have previously not been investigated. By doing so, we contribute to addressing the need raised by Armitage et al (2008, 2011) for greater attention to power inequalities between actors in social learning processes. We proceed by reviewing literature related to gender, social learning, and collaborative forest governance, and by developing an analytical framework for advancing a gender-based analysis of social learning in collaborative resource management. We describe our cases, the methods used and present our results and discussion in relation to the research questions, drawing attention to the effects of gender and other categories of social differentiation on social learning and collaborative forest governance.

4.2 Literature Review and Analytical Framework

4.2.1 Gender and social learning

Gender refers to differences between males and females that are socially and culturally influenced. While biological sex is usually established at birth, feminists contend that we become masculine or feminine through a combination of biologically determined sex differences and socially influenced characteristics (Mosse 1993; Nesmith and Wright 1995). For example, while men, on average, are larger and stronger than women, men's greater physical strength is reinforced from a young age, as boys have traditionally been encouraged to engage in active sports and other forms of physical activities, while girls have traditionally been encouraged to develop their fine motor and nurturing skills. These expectations and attributes are then carried forward as children grow up, affecting their life chances such as opportunities for employment, social expectations of behaviour, roles in society, and relations in households and communities. While such expectations are not fixed in time and space, gendered norms within cultural contexts have remained remarkably resistant to fundamental social change over few generations.

Research reveals that the benefits of social learning and collaboration are not equally shared; they accrue to those who can participate effectively (McDermott 2009; McDougall et al 2013a; Yadev et al 2015). In both post-industrial and developing countries, researchers have demonstrated that participation in forestry decision making has been characterized by a gender order that privileges men's contributions to forestry (Reed 2010b), constrains women's participation in forestry management (Agarwal 2010; Mwangi et al 2011), and ultimately contradicts the inclusive intentions of collaborative forest governance (e.g., Coulibaly-Lingani et al 2011; McDougal et al 2013a; Reed and Varghese 2007). Hence, we highlight here gender as a central axis of social differentiation.

This is not to say that all men and women share the same experiences in collaborative forest governance. In both developing and post-industrial settings, participants' experiences will be tempered by social context, cultural and local norms, regulatory requirements, individual traits, and social constructs such as ability, age, ethnicity, wealth, class and so on. Hence, not all women are disadvantaged relative to men, nor do all women necessarily share the same experiences. But it does mean that it is relevant to ask how gender intersects with other social differences to influence access, opportunities and outcomes associated with social learning and collaborative forestry governance. Gender-based analyses can also benefit those from disadvantaged groups. McDougall et al's (2013a; b) examination of social learning practices in community forestry in Nepal suggested that if such practices are located within safe and nested spaces for decision making, they can provide opportunities to meaningfully engage previously-excluded participants, improve prospects for learning, and widen the range of benefits across community members. Their work focused on how social learning, in turn, improved the conditions and engagement of women and poorer participants, thereby encouraging us to be sensitive to the challenges that women and the poor face in trying to participate in collaborative forest governance.

Although it is tempting to believe that gender differences have been reduced in post-industrial countries, an international report focusing on forestry in Europe and North America concluded that "Forestry...has been generally regarded as an arena mainly for men's work, business and governance. Within organizations, from households to companies to authorities, a gendered organizational logic is at work which not only reproduces a structure of gender division but also, paradoxically, at the same time, makes gender invisible" (Report of the UNECE/FAO Team of Specialists on Gender and Forestry, 2006 pg. 1). More recently, Colfer (2013) surveyed

cases internationally, and documented a range of factors including in post-industrial countries that affect men's and women's understanding of and involvement in forest management (e.g., economic and household relations, informal and formal decision-making institutions).

4.2.2 Challenges to understanding social learning in collaborative forest governance

Three challenges related to learning in resource management settings more broadly are also evident in this study. The first challenge is determining the locus of learning – the individual or the group. Keen et al (2005, pg. 4) defines social learning as “collective action and reflection that takes place amongst both individuals and groups when they work to improve the management of the interrelationships between social and ecological systems’. Keen et al’s (2005) definition of social learning cited earlier places emphasis on learning by *individuals and groups* as they participate in activities, although Reed et al’s (2010) definition requires a “change in understanding that *goes beyond the individual* to become situated within wider social units or communities of practice” (our emphasis). Hence, we describe social learning as starting with the individual and then spreading to the group and we understand learning outcomes may be both individual and collective and lead towards collective action (Rist et al 2007).

The second challenge is to find a way to accurately measure learning and attribute learning outcomes to specific interventions. We identified social learning outcomes according to eight variables and then classified these social learning outcomes according to three learning categories proposed by Lebel and others (2010). According to Lebel et al (2010), cognitive learning refers to learning factual knowledge and skills; normative learning includes changes in norms, values and belief systems; and relational learning includes understanding other peoples’ world views and builds trust. While it may be relatively easy to attribute change in skill

acquisition to a specific training activity or event(s), it becomes more difficult to attribute learning outcomes such as improvements in relationships to participation in a governance system. In our case, we asked study participants what they had learned and what changes had occurred in the CF as a result of learning, an approach that has been used by scholars such as Brown et al (2008), Brummel et al (2010), and Fernandez-Gimenez et al (2008).

The third challenge is the potential to conflate participation with learning. Bull et al (2008) and Reed et al (2010) rightly point out that one need not participate to learn, and in addition, learning may not translate into specific action. Furthermore, learning can take place whether or not a platform is structured for that purpose. Muro and Jeffrey (2008), for example, rightly point out that learning can take place from conflictual settings as well as collaborative ones. But, it is also true that collaborative resource management platforms offer shared platforms for participation and for learning both individually and collectively. Researchers have documented that social learning occurs as people participate in collaborative resource management activities such as meetings, training, resource planning, resource extraction or harvesting, and monitoring (Brown et al 2008; Cundill and Rodela 2012). People learn as they participate, and it may be artificial to separate the benefits of and barriers to participating and learning. Amidst the murkiness suggested by these three challenges, how might one tease out gendered dimensions of learning and collaborative forest governance?

4.2.3 A framework for assessing gendered dimensions of learning in forest governance

Our conceptualization of gender and social learning in collaborative forest governance suggests that to answer our research questions, we must pay attention to three elements: access to opportunities for learning, spaces of learning, and outcomes of learning.

Element 1: Gendered access to social learning platforms: Accessibility to social learning opportunities is most closely related to the ability to participate. Access means having sufficient and appropriate opportunities to express one's choices and opinions and requires sufficient capacity including education, information and logistical support to be able to understand and participate actively (Senecah 2004). Access is also strongly linked to capacity, which requires that participants have sufficient general and specific knowledge and skills to be effective participants and learners. There is considerable research showing that access to forestry-related activities and decision making forums is not equally distributed. Many social groups such as itinerant workers, indigenous peoples, and women have tended to be excluded from forestry management and governance institutions (e.g., Agarwal 2010; Mwangi et al 2011; Reed 2010a,b). Participation may be restricted by social/cultural norms and outright exclusion of particular groups (Agarwal 2010); power imbalances between men and women and failure to account for gender-specific needs (Mwangi et al 2011; Reed 2010a); and, lack of role models or social networks (Arora-Jonsson 2010; Sun et al 2011). In excluding these actors from participation, such institutions exclude them from learning opportunities as well.

Element 2: Gendered spaces within learning platforms: Our framework also draws attention to gendered spaces for learning. Harding's (1996) formative work on gendered knowledge suggests that within social settings, there are gendered cultures that separate women and men. For example, in western contexts, men are drawn into masculinized spaces or cultures associated with the military and sports whereas women are drawn into feminized spaces or cultures such as fashion or elementary education. Flannery and Hayes (2000 pg. 4) elaborate: "Women and men can be found in both cultures, but these cultures shape women's and men's experiences in different ways, giving them the opportunity to acquire different sorts of

knowledge and abilities”. Further, they suggest that these kinds of experiences also shape the interests and concerns of women and men when they are in similar situations. Women and men will likely take up different opportunities for learning, have different approaches to learning; and bring different kinds of knowledge and concerns into learning environments (Flannery and Hayes 2000). This may lead to social segregation, particularly if women and men take up different learning opportunities and to spatial segregation if the activities occur in different places within the management setting. Our framework, therefore, considers whether platforms for learning become socially and spatially segregated.

Element 3: Gendered outcomes of learning platforms: Participants may also take different kinds of lessons out from those learning environments. This is confirmed by one study related to collaboration in forest management in Canada that found that women tended to report communicative learning outcomes while men tended to report more instrumental learning outcomes (Richardson 2008). The framework draws attention to the outcomes described by women and men and interrogates for the motivations, enablers and constraints that shape those outcomes.

4.3 Description of the Cases

4.3.1 Harrop-Procter Community Forest - Canada

Harrop-Procter Community Forest (HPCF) is located in the communities of Harrop and Procter about 30 kilometers north east of Nelson in south western BC. It covers 10,300 hectares of Provincial Forest Crown land on the South Shore of the West Arm of Kootenay Lake. The HPCF Community Forest Agreement (CFA) with BC Ministry of Forests was first signed in 1999 for a five year term. In 2008, HPCF received a 25-year Community Forest (CF) license negotiated

with the Province. HPCF is overseen by Harrop-Procter Watershed Protection Society (the Society) and Harrop-Procter Community Co-operative (the Coop). The Society preceded the Coop. The Society focuses attention on outreach and monitoring while the Coop is the business arm of the CF. Harrop-Procter chose this cooperative model because it allowed public participation and maintained accountability (HPCF 2014). The Coop is run by a 12-member board of which five are women, the Society is run by a 9-member board of which five are women. Both the Coop and the Society hold annual general meetings that are open to the public but voting is restricted to members.

During data collection, interviewees did not often differentiate between the Coop and the Society. We shall do the same and use HPCF or the CF to refer to both organizations. However, where necessary we shall differentiate between the two organizations.

4.3.2 Kapeka Integrated Conservation Development Agency - Uganda

Kapeka Integrated Community Development Association (KICODA) was registered in 2005 by the residents of Kapeka village. Kapeka is located along the south eastern border of Budongo Forest. Budongo Forest is located about 240 km northwest of Kampala. It covers 835 square kilometers and is the largest forest reserve in Uganda. It is divided into compartments and KICODA manages one of the compartment that is adjacent to Kapeka village.

The National Forest Authority (NFA) created the collaborative forest management agreement (CFMA) as a means of enabling forest-adjacent communities to access forest resources, as well as assist with forest governance. In order to sign a CFMA, a forest-based community must first form a CBO and then negotiate with NFA. The CFMA lays out the rights and responsibilities of the signing body over a 10-year period. The CFMA is renewable. The

CFMA Guidelines (National Forest Authority 2003) stipulate that at least one-third of the CBO Executive Committee should be female. Uganda also enshrined affirmative action for women and marginalized groups (i.e., disabled, youth, elderly, and minority tribes) in the 1995 national constitution, thereby increasing the number of women in public and private offices.

The CFMA also lays out the mandate of KICODA which can be summarized as: forest protection and conservation; development of alternative income sources; public awareness raising. Membership in KICODA is individual and permanent. The membership fee is a one-time payment of five thousand Uganda shillings (equivalent to two Canadian dollars in 2013). In order to be a member one has to be a resident of Kapeka village. KICODA is run by a 12-member executive committee made up of six men and six women as of April 2013. Like HPCF, KICODA also holds annual general meetings that are open to the public where voting is restricted to members.

4.4 Data Collection and Analysis

Data were collected by the lead author using interviews of local members of the collaborative, key persons in relevant government agencies or non-governmental organizations, focus group meetings and, participant observation from January to July 2013 (Table 4.1). Participants for the local interviews were identified using the snowball method starting with the leadership; at HPCF it was the board members of the Society and Coop, at KICODA it was the members of the executive committee. A semi-structured interview guide was used and all interviews were recorded with the consent of the interviewees. Each personal interview lasted on average one hour at both locations. The same interview guide was used at both study sites. The interview questions were designed to obtain information on what activities people participated in, what

they learned, how they learned, and whether they thought the CF was being effectively managed. Male and female translators were used at KICODA for interviewees who did not know English or who were not comfortable speaking English.

Table 4. 1. Number of study participants by data collection method

| | HPCF | | | KICODA | | |
|--------------------------|--------|------|-------|--------|------|-------|
| | Female | Male | Total | Female | Male | Total |
| Personal Interviewees | 14 | 14 | 28 | 14 | 17 | 31 |
| Focus group participants | 6 | 5 | 11 | 10 | 13 | 23 |
| Key person interviews | 2 | 5 | 7 | 1 | 5 | 6 |

All personal interview participants were also invited to the focus group meetings. At KICODA all focus group participants had also participated in the personal interviews. At HPCF, four of the participants had not participated in the semi-structured interviews but were members of HPCF and lived within Harrop and Procter villages. The focus group meetings were used to present and confirm preliminary findings from personal interviews. The focus group meetings were also used because they provided the opportunity for HPCF and KICODA members to interact and respond as a group as well as confirm or refute personal interview findings. At KICODA, one mixed focus group was conducted in English, one all-male focus group was conducted in Lugbara and English, and the rest (one all-male and two all-female focus group meetings) were conducted in Swahili and English. Male and female translators were used for the all-male and all-female KICODA focus group meetings respectively. One all-female focus group meeting and one mixed focus group meeting was held at HPCF. Key person interviews were conducted with persons from government and non-government organizations that worked with either HPCF or KICDOA to implement collaborative forest governance.

Data were analyzed following a mix of inductive and deductive approaches whereby themes that emerged from analyzed data guided further analysis in conjunction with information from reviewed literature (Miles and Huberman 1994). All interviews were transcribed verbatim, exported to NVivo and coded using codes that were descriptive, explanatory, or *in vivo*. The codes were classified into themes that were then reviewed according to our analytical framework. In some cases, new themes emerged. Our analysis was not strictly comparative; we draw parallel lessons from each case study.

4.5 Results

4.5.1 Activities and spaces for learning

Both KICODA and HPCF had almost equal numbers of men and women in their membership and leadership. As of January 2013, KICODA had 190 members of whom 82 were women; the executive committee had 12 members and half were women. As of January 2014, HPCC and HPWPS had 137 and 37 members respectively; membership information by gender was not available, despite direct requests. As of April 2015, the HPCC board had 12 directors of whom 5 were women and HPWPS had 9 directors of whom 5 were women.

Participants identified ten primary activities as mechanisms through which they participated in and learned about collaborative forest governance (Table 4.2). The most commonly reported activities in both cases were attending meetings and seminars, and participation in business activities. HPCF interviewees reported that men and women were present in almost equal numbers. However, three female interviewees admitted to not attending meetings because their husbands were attending the meetings – in other words, they deferred to their husbands to participate for them. This was surprising as three women wrote the rules of

association for the Coop and two of the four authors for the CF proposal were women. However, over time, women withdrew from direct Coop activities.

Table 4. 2. Participation in activities conducted by Harrop-Procter Community Forest and Kapeka Integrated Conservation Development Agency that encouraged learning as mentioned by interviewees

| Activity type | Harrop-Procter Community Forest | | | Kapeka Integrated Conservation Development Agency | | |
|-----------------------|--|-------------|---------------|---|-------------|---------------|
| | Description of activity | Men N=14 | Women N=14 | Description of activity | Men N=17 | Women N=14 |
| Meetings | Board meetings, annual information meeting, AGM, open house, information series, forest management planning, AAC revision. | 10 | 14 | Executive committee meeting, women's group meeting, and workshops, planning meetings. | 15 | 13 |
| Seminars/ training | Board governance/ business management. | 3 | 1 | On-site and off-site training seminars on forestry by-laws, patrolling, business management, bee keeping, etc. | 19 | 11 |
| Forest management | Planning/operations, road construction, clearing under growth/ managing for forest fires, replanting after logging. | 2 | 2 | Enrichment planting, afforestation, boundary planting, forest patrols, forest boundary maintenance. | 24 | 18 |
| Timber harvest | Logging, ongoing. | - | - | Logging, one license ~ 4 months long. | 2 | - |
| NTFP harvest | Individual/personal use: firewood, fruits, mushrooms, craft material. | 10 | 14 | Individual and contributes to family livelihoods: firewood, thatching grass, vegetables, craft materials, etc. | 17 | 14 |
| NTFP business | Sunshine Bay Botanicals | - | 2 | n/a | n/a | n/a |
| Other forest use | Recreation e.g. fishing, skiing, mountain biking; water source. | 15 | 21 | Water source especially during dry season. | 7 | 6 |
| Business activities | Organization business i.e. mill/value added, community forestry. | 8 | 2 | Personal business e.g. bee keeping, tree planting, goat rearing, chili growing, etc. | 14 | 13 |
| Networking | Member of British Columbia Community Forest Association, visited CFs in BC, Russia, and Nepal to share expertise. | 2 | 1 | Visited other Community Based Organizations in Rakai and Bushenyi to learn from them. | 4 | 3 |
| Hosting | Elementary and high schools, postsecondary institutes, university groups, etc. | 2 | 2 | Hosted other groups to teach them about collaborative forest management. | 7 | 3 |
| Paid activities | Employ forester, mill manager and workers, office workers, timber harvesters, road constructors, plus others as needed. | 5 | 3 | Access National Forest Authority contracts e.g. road construction. KICODA is paid a portion of the contract fees. | 3 | 0 |
| Research & monitoring | Conduction forest and community surveys, collect weekly water samples. | 4 | 5 | n/a | n/a | n/a |
| Other activities | Held work bees and fund raisers. | 4 | 9 | Established three seedling nurseries, held one fund raiser, mobilized community to access other funds. | 15 | 8 |

Note: AAC = annual allowable cut, AGM = annual general meeting, BC = British Columbia, N/A = not applicable, NTFP = non-timber forest products

It became apparent that while overall participation was relatively equal, the spaces of participation and learning were segregated. For example, some participants argued that men participated more than women and the extent to which someone participated in an activity was determined by whether it was a ‘men’s activity or ‘women’s activity’. In other words, the spaces of participation and learning were gender specific. For example, HPCF interviewees stated:

‘there is more men at the mill and employed to deal with the actual forest.’

[Female participant]

‘the loggers were generally men and the people who started the botanicals were largely female’, [Male participant] and,

‘[there was] stronger male perspective on the board’. [Female participant]

There were also some differences with regards to board preference; more women preferred to serve on the Society board (responsible for forest and watershed protection, research, and public education) rather than on the HPCC board (the business arm). So even though they were free to participate, women seemed to choose activities and spaces that have been more strongly associated with feminine roles and identities.

In KICODA, when asked whether there was any difference in activities undertaken by men and women, more than half of the respondents said men participate more in meetings and activities like forest patrols, bee keeping, and tree seedling nursery preparation. However, people also said that women were found to participate more actively in tree seedling nursery bed management – potting and watering - and obtaining/farming boundary and forest plots. The NFA allocated plots of land to KICODA members on the forest border. Plot owners were expected to cultivate food crops and grow trees. These activities also enabled them to serve as sentries along

the forest border. Women expressed interest in these land allocations for growing food and planting trees whereas men were more interested in planting trees.

Board membership at KICODA was not as clearly segregated by gender. One-half of KICODA's executive committee membership was female and they held key positions including Secretary and Treasurer. Most interviewees mentioned that the Secretary (a female in her mid-twenties and one of only two interviewees who were college graduates) was more knowledgeable about the organization than the Chairman (and his Vice). The Chairman himself referred some of the interview questions to her for confirmation. Although most KICODA participants described decisions as being equally beneficial to men and women with no particular group dominating, they pointed out that the only license to commercially log was given to men. They also added that whenever there were study tours to other forest communities, more men than women travelled. Hence, opportunities to access and learn from these activities are also differentiated by gender.

The villages of Harrop and Procter are attractive for urban 'refugees' and retirees who also volunteer on various local organizations. HPCF has almost equal representation of men and women on the Coop and Society board of directors. However, there was gendered access to learning platforms as interviewees reported that women were left out of some of the decision-making processes. An interviewee explained:

... to a degree I think that there tends to be a lot of decision making, or discussion about decisions, like with any business I guess, it doesn't go on at the board table it sort of goes on behind the scenes and it goes on among, you know, a group of men. And women aren't necessarily invited to those conversations because you

know because it is men at the workplace, it is male oriented work... [Female participant]

We found that whereas women are allowed to participate and learn about forestry management, they were sometimes excluded from that decision space and hence restricted from learning more about forest management decision-making.

In addition, spaces for learning appeared to become gendered through self-selection. The project “Sunshine Bay Botanicals” a certified organic herb and non-timber forest products (NTFPs) company was established in the early years of the CF. The project ran from 2001 to 2007. HPCF was able to obtain grants that were specifically for the NTFPs project. Although there were volunteers from HPCF, students were also hired to work on the project over the summers. When it was established, it required two full time volunteers, several part-time volunteers and students to run it. Products from the project were sold in the community, in the nearby city of Nelson, and as far away as Toronto and the US. Most Project volunteers were female. During interviews, seven men and eight women talked about the project. But it is only the female respondents who also described learning from it:

Women really liked the herbal business [Sunshine Bay Botanicals]...they did a social event last year, women like to participate in those things. So you will have them advertising or baking or organizing the baking or cooking or whatever so there are opportunities. Not as many as they used to be when we were doing the craft fairs and the herbs and ... there was a lot of opportunity for people that didn't have a real solid base of the whole operation to get really good at those things. [Female participant – HPCF].

Well I've learnt a lot from the botanicals... I learnt a lot there because they were not from the forest. They were planted in fields. And those I learnt a lot. I learnt how to make, how to dry them, how to harvest them, I mean it was a lot. [Female participant - HPCF].

... and then also business wise I've learnt as much as well in so many things, the whole process of Sunshine Bay Botanicals and then having to pull the plug on it. [Female participant - HPCF]

Over time, however, the Sunshine Bay project was viewed as very labour intensive and did not provide the kind of income that logging could. Hence, the Co-op Board considered this project a failure and cancelled it in 2007. This decision effectively cut out a key activity that involved women. Following cancellation of the project, some women chose to concentrate their volunteer effort on the work of the Society. This arm of the CF was dedicated to outreach and education. Both in the establishment of the Sunshine Bay Botanicals project and in shifting their energies towards outreach and education, women occupied learning spaces that reproduced longstanding social norms about the appropriate roles of women in forestry (Reed 2003). By contrast, men remained active in and learning about business and decision-making associated with logging – activities that have been traditionally male-dominated in Canada (Reed 2008; Reed and Davidson 2011).

4.5.2 Gendered social learning outcomes during collaborative forest governance

When asked to describe some of the things they had learned, people described acquiring knowledge about forest ecology, conservation, and management. They also learned how to manage a community organization and deal with government agencies. What they learned

enabled them to become effective participants. What was learned was similar between HPCF and KICODA (see Table 4.3). For example, learning about community forestry, forest management, and collaborative forest governance was evenly split between men and women in both the Canadian and Ugandan cases.

Table 4. 3. What interviewees reported learning during forest governance

| Variable | Harrop-Procter Community Forest, Canada | Men N=14 | Women N=14 | Kapeka Integrated Conservation Development Agency, Uganda | Men N=17 | Women N=14 |
|--|--|---------------------|-----------------------|---|---------------------|-----------------------|
| Knowledge acquired | Forest ecology | 5 | 9 | Collaborative forest management | 12 | 12 |
| | Community forestry/forest management | 11 | 13 | Tree nursery set-up and management | 10 | 7 |
| | Board governance | 3 | 4 | Tree planting | 16 | 11 |
| | Non-timber forest products management | - | 2 | Bee keeping | 14 | 7 |
| | Business management | - | 4 | Small business management | 1 | 3 |
| | Proposal development and fund raising | - | 1 | Advocacy/lobbying politicians | 1 | 1 |
| Technical skills acquired | Forest monitoring | - | 6 | Tree planting | 16 | 11 |
| | Timber cruising | 1 | - | Bee keeping | 14 | 7 |
| | | | | Forest patrolling | 4 | 0 |
| | | | | Tree nursery set-up and management | 10 | 7 |
| Developed social skills | Communicating with the public | - | 1 | Working with other similar organizations | 1 | 1 |
| Action/Activities implemented | Closure of a non-profitable project (Sunshine Bay Botanicals) | - | - | Forest patrol | 9 | 3 |
| Relationships Improved or developed | Starting to develop good working relationship with Ministry of Forests | - | - | Improved relationships with National Forest Authority | 1 | 1 |
| Behavior Changes | - | - | - | Changed behavior – no longer logging illegally/Reported illegal activities to NFA | 3 | - |
| Changes to values/ Assumptions/ Attitude | Changed attitudes/assumptions about loggers and ‘high volume’ logging | - | 1 | Changed values about trees and forests | 1 | - |

Note: What people reported does not add up to the total number of interviewees because the question was open-ended and we reported the number of times an item was mentioned. NFA = National Forest Authority

We found that the segregation of learning spaces eventually led to gendered social learning outcomes in what people reported. For example, in Uganda, men reported learning about forest patrols; some of them did that through formal training at Nyabyeya Forest College. By contrast, few women reported learning about forest patrols and all who did learned informally on the job. This suggests that outcomes were linked to the spaces where women and men learned. In Canada, women reported learning about ecology and large (corporate) business management whereas in Uganda, women reported learning about small (personal) business management. In Uganda, more men than women reported learning about bee keeping; two interviewees suggested women were afraid of bees.

4.5.3 Motivators, enablers or constraints to participation and learning during forest governance

Because we assumed that participating in activities provides forums for social learning; participants were asked in open-ended questions to identify factors that motivated, enabled, or constrained their participation in activities from which they could learn. Table 4.4 indicates the number of times the motivators and enablers were mentioned by both HPCF and KICODA interviewees. Some participants listed more than one motivator or enabler. Contributing to/interest in a well-managed natural environment topped the overall list of participation motivators in both locations.

Table 4. 4. Participation motivators and enablers identified by interviewees

| Participation Motivators and Enablers | Canada | | Uganda | | Total |
|--|-------------|---------------|-------------|---------------|-------|
| | Men N=14 | Women N=14 | Men N=17 | Women N=14 | N= 59 |
| Contribute to/interested in well managed environment (watershed, forest) | 5 | 7 | 7 | 0 | 19 |
| Access/obtain resources (e.g. NTFPs), benefits (e.g. plots for cultivation) | 0 | 0 | 7 | 9 | 16 |
| Acquire knowledge and skills (learning) | 0 | 2 | 5 | 5 | 12 |
| Belong to and work with a community/cooperative group | 7 | 2 | 1 | 1 | 11 |
| Livelihood based on forestry/have knowledge or experience | 1 | 4 | 0 | 0 | 5 |
| Interest in specific activity/ interesting activities (nursery bed for KICODA) | 0 | 0 | 0 | 2 | 2 |
| Time to volunteer | 1 | 0 | 1 | 0 | 2 |

Note: NTFP = non-timber forest product

There were some differences between motivators by gender. For men, the most frequently-mentioned motivator was the desire to contribute to a well-managed environment. For women, it was knowledge and skills acquisition and accessing resources (Table 4.4). There were noticeable differences between study sites. For instance, more Ugandan women mentioned knowledge and skills acquisition as a participation motivator; and no Canadian man mentioned knowledge and skills acquisition as a motivator. All the women who mentioned contributing to the environment were Canadian. Canadian men and women harvest NTFPs and use the CF for recreation but did not view these as participation motivators. In Uganda, the creation of the forest reserve restricted access to NTFPs until the signing of the CFMA. This could explain why being able to access NTFPs was mentioned as a motivator by only Ugandan participants (16/31).

Interviewees were asked to describe what constrained their participation and subsequent learning. Table 4.5 provides information on the number of times a personal constraint was mentioned by interviewees.

Table 4. 5. Personal constraints to participation as identified by interviewees

| Categories of Constraints | Canada | | Uganda | | Total |
|--|-------------|---------------|-------------|---------------|-------|
| | Men N=14 | Women N=14 | Men N=17 | Women N=14 | |
| Time (busy/employment/work) | 8 | 5 | 3 | 2 | 18 |
| Age/health/low energy levels | 1 | 1 | 2 | 3 | 7 |
| Lack of resources/equipment | 0 | 0 | 5 | 1 | 6 |
| Poor communication about activities | 0 | 0 | 2 | 2 | 4 |
| Lack of activities to participate in | 0 | 0 | 2 | 1 | 3 |
| Family responsibilities | 1 | 2 | 0 | 0 | 3 |
| Burn-out | 1 | 2 | 0 | 0 | 3 |
| Timing of activities | 0 | 0 | 0 | 1 | 1 |
| Literacy | 0 | 0 | 0 | 1 | 1 |
| Favoritism | 0 | 0 | 1 | 0 | 1 |
| Lack of knowledge/experience | 1 | 0 | 0 | 0 | 1 |
| Discouragement with direction organization is taking | 1 | 0 | 0 | 0 | 1 |
| Conflict of interest | 0 | 1 | 0 | 0 | 1 |
| Nothing | 0 | 0 | 4 | 4 | 8 |

In addition, interviewees described or mentioned participation constraints that men and or women faced more generally; this information was provided in response to other interview questions or follow-up questions (Table 4.6).

Table 4. 6. General constraints mentioned during interviews*

| Categories of Constraints | Canada | | Uganda | | Total |
|--|-------------|---------------|-------------|---------------|-------|
| | Men N=14 | Women N=14 | Men N=17 | Women N=14 | |
| Fear men/men controlling/defer to men/ feel inferior to men | 0 | 6 | 0 | 3 | 9 |
| Young families/timing of activities | 0 | 8 | 0 | 1 | 8 |
| Husbands leave wives out | 0 | 0 | 0 | 4 | 4 |
| Small remuneration/lack of appreciation | 0 | 3 | 0 | 1 | 4 |
| Physical work (e.g. mill – HPCF; seedling nursery - KICODA) | 0 | 2 | 0 | 2 | 4 |
| Lack of expertise/specific skill set | 0 | 4 | 0 | 0 | 4 |
| Other (e.g. stress of being on board; HPCF resistant to change) | 0 | 3 | 0 | 0 | 3 |
| Male oriented activities | 0 | 0 | 0 | 2 | 2 |
| No opportunities | 0 | 2 | 0 | 0 | 2 |
| Conflict of interest | 0 | 2 | 0 | 0 | 2 |
| Discouragement from failed project | 0 | 0 | 1 | 1 | 2 |
| Poor communication about activities | 0 | 0 | 0 | 1 | 1 |
| Membership fee | 0 | 0 | 0 | 1 | 1 |

* General constraints are those that were observed by interviewees but not necessarily experienced. For example, men may have provided constraints that women face whereas in Table 4.5 the constraints were all self-reported by each of the interviewees.

Tables 4.5 and 4.6 provide very different information about constraints to participation and learning by location and gender. While eight of 31 participants from Uganda stated they faced no constraints when asked about their own situation (Table 4.5), both men and women provided many additional constraints that women generally face (Table 4.6). It is also possible that asking some women in third person about constraints freed them to share about female constraints without necessarily admitting that they personally faced the same constraints. The fear of men was an important constraint identified in follow-up questions and reported in Table 4.6 but was never mentioned when participants were asked directly (Table 4.5). Having a young family and the timing of activities also emerged as important constraints when people spoke of “others” (Table 4.6).

According to Table 4.5, time was a constraint that was common to both men and women. The physical nature of some of the activities limited women's participation at both sites. For example, at HPCF, logging, road building, and working at the mill were activities that were seen to be physically demanding and had few female participants. In the Ugandan case too, fewer women were involved in the work that was very physically demanding such as tree seedling nursery preparation. So whereas interviewees said the level of participation in both organizations was equal between men and women, they acknowledged that the physical nature of some of the activities restricted those activities to mostly men. Hence, women were less likely to learn to do physical jobs associated with forestry:

...going for patrols in the forest... these ladies you cannot take them there...these people who are doing illegal activities inside there, they are energetic, so you cannot take a lady.... [Male participant – KICODA]

To make those [tree seedling] nursery beds, women don't, they can't manage...Because at first they begin to dig and plow; maybe they dig in some bad places whereby you need to uproot a tree like this. So that one a woman cannot manage. [Female participant – KICODA]

I don't see any reason why they couldn't be [women working at the mill]. I mean it's a fairly physical workload and we have had a number of people coming and asking if we have been hiring...But no women have applied at least not directly to the mill. I know most of our office staff are women. I mean personally, I would have no problems whatsoever having female workers down at the mill. [Male Participant- HPCF]

At HPCF, several women mentioned a lack of participation opportunities, and by implication learning opportunities. Interestingly, women mentioned stepping down from the board of directors because they felt they lacked the required skill set. For example, they described having skills to contribute when the CF was being established but when it started concentrating on becoming a profitable logging and milling business, they felt they did not have the right skill set. One man in HPCF also admitted to not having the technical expertise in forestry and thereby he felt he was unable to participate in the CF's operations management.

Literacy seemed to be an important constraint in the Ugandan case, particularly where meetings were conducted in English with no interpretation. Budongo Forest area is renowned for having people from different tribes; at least eight languages (Lunyoro, Lugbara, Kakwa, Ateso, Acholi, Jopadhola, Madi, and Lendu) were identified during data collection. In addition to these languages, English and Swahili were also spoken. Due to the large number of languages, meetings were sometimes conducted in English when visitors were around or during seminars. Some female interviewees said they felt left out during such meetings.

4.6 Discussion

4.6.1 Access and outcomes of participation and social learning in collaborative forest governance

Our research confirmed that gender plays a role in access to and outcomes of participation and social learning in collaborative forest governance. For example, at HPCF, there were more men at the mill, logging, and constructing roads whereas more women were involved in the NTFPs project, watershed protection activities, support and administration. While initially, more women participated in the Coop board, it appears that as the board became more focused on logging and

timber production, women dropped off. Hence, learning opportunities became spatially segregated. But related research suggests that gender may not be the only dimension influencing opportunities for social learning. Participation in HPCF was dominated by middle-aged, well-educated urban migrants, so that opportunities for learning disproportionately favoured this social group. Reed and Davidson (2011), and Parkins and Sinclair (2014) have described such people as local elites who have come to dominate participation in “community-based” forest management advisory committees in Canada. At the outset of HPCF, both men and women were engaged approximately equally in social learning activities that provided opportunities for learning and action. But over time, men guided the CF towards an organization that focused more on logging and processing of timber. Hence, over time, gender differentiation in social learning activities became more pronounced and reinforced longstanding stereotypes about the place of women and men in forestry (Reed 2003).

The Ugandan case offered different insights about gender differentiation in social learning and forest governance. In KICODA, overall membership and participation on the executive committee was evenly split between men and women. Women constituted one-half the executive committee, were knowledgeable, and active, and they reported that their voices were being heard. Their participation, then, provided access to a broader range of activities from which they could learn. However, there were some gendered differences in activities and needs in Uganda too. For example, more women participated in forest plot ownership because they wanted the plots for food cultivation – they were successful in obtaining the plots. The women were interested in accessing forestry resources and they participated, learned and gained benefits through a range of activities. Our results support findings by Arora-Jonsson (2010), McDermott (2009), and McDougall et al (2013a, b) that forestry benefits and learning opportunities accrue to

those who participate effectively. Although an earlier study at Budongo had found that men were twice as likely as women to participate in collaborative forest governance (Kugonza et al 2009), this study found that this situation had changed; generally, women were effective participants. This is also confirmed by Coleman and Mwangi (2013) who found that Ugandan women's participation in forest user groups was equal to men's participation. However, we found that the spaces of learning were segregated and that other axes of social differentiation were also at play.

Apart from gender, we found literacy and education affected access to social learning opportunities for both women and men in the Ugandan case. Similarly, Lestari et al (2015) found education levels to be positively related to participation in and learning outcomes from collaborative forest governance initiatives. In our case, women and men who could speak English and Swahili attended all seminars hosted by KICODA but those who could not speak these two languages were left out. They were also highly unlikely to hold certain positions (e.g. chairman or secretary) in the executive committee that necessitated interacting in English with government officials or international NGO employees. Because rural women in Uganda have a significantly lower literacy rate³ than men, they may be less likely, overall, to engage in learning and governance activities. Consequently, while women and men participated in day-to-day activities, there were more opportunities for participation and learning for men than women because men were more highly educated.⁴ For example, the more influential position of chairman of a CBO had always been held by a male. This is precisely the kind of unevenness

³ Literacy rates for Uganda (18 years and above) are: female 66% and males 79%, national 73%. Literacy rates for rural areas are: females 62%, males 77% (Uganda Bureau of Statistics 2012).

⁴ Although, as if to demonstrate the "rule", one Ugandan woman who served as KICODA's executive secretary was both well-educated and influential. She moved away from the village but was not requested to relinquish her position as there was no woman with a similar level of education or experience to replace her.

that McDougall (2013a, b) was attempting to address in Nepal and it reinforces Armitage et al's (2008, 2011) call for better understanding of power and marginality in social learning.

Whereas those who had fewer learning opportunities at KICODA were illiterate and less well educated people, at HPCF those who felt marginalized were people who held different views with regards to timber harvest volumes and the values that guide HPCF's current focus – running a financially viable forestry business. Running a financially viable business meant letting go of projects like Sunshine Bay Botanicals that required lots of effort and had a lower financial return. This business was run mostly by women. When it was closed, the expertise they had gained was not pulled into other business operations. Instead, as HPCF became more driven to gain higher profits, more women gravitated towards the Society where activities focused on forest and watershed protection; ecosystem-based forest development; employment; research and public education. This self-selection resulted in both social and spatial segregation and reproduced gender norms around resource extraction and environmental protection that have been longstanding in Canada (Reed and Varghese 2007). In summary, while social learning was occurring at HPCF and KICODA, opportunities and outcomes were not evenly shared.

4.6.2 Gender and social learning spaces in collaborative forest governance

We confirmed that people learned as they accessed social learning spaces during collaborative forest governance. At both HPCF and KICODA, participants reported gaining knowledge and skills related to forestry and business management as well as conservation through activities such as attending meetings and training seminars, networking, taking field trips, and volunteering for their forestry organizations. These findings are similar to those of other social learning scholars (e.g. Brown et al 2008; Fernandez-Gimenez et al 2008; Schusler et al 2003). Furthermore, people who volunteered often were also more aware of the organization's mandate, activities, successes,

failures, changes, and future plans. These findings support other scholars' findings with respect to participation in collaborative forest governance management activities in Australia, Bolivia, and Indonesia (e.g. Biedenweg and Monroe 2013; Lestari et al 2015; Leys and Vanclay 2011); these researchers found that people who actively participated in forest management activities learned more and participated more, a kind of positive feedback loop. One could stop there and simply state that engaging in forest governance provided local community members with access to social learning opportunities and increased their capacity to participate in forest governance.

However, by examining learning outcomes against learning spaces, we found that opportunities for social learning were both socially and spatially segregated. For example, women at HPCF gravitated towards advocacy and organizing events while the men leaned towards logging and business management. And at KICODA, the men leaned towards forest patrols and physically demanding jobs like tree seedling nursery preparation while the women engaged in tree seedling nursery watering, attended meetings, and supported the men.

We found that certain constraints, for example fear of men, may affect the spaces and strategies women choose for learning and the likelihood that women will take up influential positions. Colfer's (2013) careful review of gendered dimensions of forestry internationally suggests that domestic violence is a significant constraint for the participation of women in forestry in many countries, including Uganda. This concern raises the issue of whether women-only forums might be a useful strategy for learning and forestry governance. Arora-Jonsson's (2010) research in India and Sweden noted that such forums can be a safe place for women to discuss and address violence, and that women may need to participate in mainstream organizations *and* organize separately in order to address women's particular interests and to become effective contributors of the social learning of the organization as a whole.

4.7 Conclusions

Using cases from different country settings, we confirmed that collaborative forest governance enables participants to participate in, learn, and benefit from forest management. By paying attention to opportunities for access, the spaces of learning, and the range of enablers, motivators, and constraints, we revealed that gender affects social learning opportunities and outcomes. More specifically, activities and outcomes for learning became spatially and socially segregated. Due to gendered access and learning spaces, the two collaborative forest governance initiatives provided more opportunities for men to participate and learn and limited learning opportunities for some groups of women. The gap, however, is not solely a gender gap. Other characteristics, such as education and literacy in Uganda and longstanding social norms in Canada, were found to be important in whether particular men or women gained opportunities for learning and influence. We also found that opportunities for social learning became more restricted for women and some men in the Canadian example over time, whereas in the Ugandan example the opportunities for social learning were restricted for certain groups of people (e.g. illiterate men and women) right from the establishment of the initiative. If social learning is founded on or reproduces unequal opportunities to participate across the spectrum of collaborative forest governance activities, then opportunities for learning will also be uneven and the claim of collaboration will be diminished.

We suggest that a better understanding of gender and social learning in natural resource management can help address concerns about marginalization in social learning and guide the design of future projects. Improved understanding can strengthen the capacities of communities, promote more informed interactions among participants, resolve conflicts, empower previously-disadvantaged groups, and thereby help all participants become more effective managers in the

long term. Shaw and Kristjanson (2014 p. 2711) suggest that “inclusion of socially differentiated groups contributes to novel exchange and learning, helps to co-create relevant and legitimate knowledge, and build and optimize networks, which have the potential to both improve and accelerate livelihood and adaptive capacity outcomes”. We share their optimism. However, our research reveals that we cannot assume that social learning opportunities are evenly shared among participants of collaborative forest governance. Social learning theorists must pay attention to the dynamics of gender and other categories of social difference as they theorize about deliberative forums and processes, spaces, language while practitioners should consider gender and other axes of difference in forest-adjacent communities when designing and executing collaborative forest governance initiatives.

CHAPTER 5 – CONCLUSIONS: THE CONTRIBUTIONS OF SOCIAL LEARNING TO COLLABORATIVE FOREST GOVERNANCE

5.1 Thesis Summary

Collaborative forest governance supports more sustainable forestry practices because it engages previously overlooked forest-based communities in forest management (Charnley and Poe 2007). Since collaborative forest governance brings together people with different values, needs, knowledge levels, resources, and skills, there is a need for the people involved in collaborative initiatives to learn about forest management and about how to work together effectively. Hence, social learning and collaborative forest governance can be linked through participatory activities and, therefore, mutually reinforce each other. However, even with the acknowledged potential to contribute to collaborative forest governance approaches (Biedenweg and Monroe 2013; Fernandez-Gimenez et al 2008; Sinclair et al 2011), social learning mechanisms and outcomes in collaborative forest governance settings in both developing and developed country settings are still not well understood.

Several gaps are evident in literature related to social learning and collaborative forest governance. Whereas researchers have examined what and how people learn in forest governance (e.g., Brummel et al 2010; Cheng and Mattor 2011; Fernandez-Gimenez et al 2008; Leys and Vanclay 2010), researchers have not previously explored how actors ‘outside’ local communities influence social learning. Furthermore, few researchers have considered the temporal dimension of learning (cf. Measham 2013); hence, it has been frequently assumed that more time given to a collaboration will lead to more learning outcomes (e.g., Brummel et al

2010). Only a few researchers of social learning have systematically considered how learning mechanisms and outcomes might be influenced by gender relations (e.g., McDougall et al 2013b). And finally, prior to this research, I had not come across publications that specifically examined whether social learning contributed to effective forest management. By addressing each of these gaps, this research contributes to a better understanding of how social learning contributes to collaborative forest governance.

The purpose of this thesis was to investigate the contributions of social learning to collaborative forest governance in two cases in Canada and Uganda. The thesis research was guided by the following objectives: (1) describe what forest-based communities were learning as they engaged in collaborative forest governance; (2) evaluate mechanisms through which forest-based communities learned as they participated in collaborative forest governance; (3) examine constraints on participation and learning opportunities that men and women faced in forest governance; and (4) assess the contribution of social learning to effective collaborative forest governance.

The findings of the two cases were presented first individually and then together. The second chapter (first manuscript) reported on how social learning opportunities and outcomes changed over time using an in-depth study of HPCF, Canada. HPCF started out as an environmentally-conscious CF that favoured very low annual allowable harvests and diverse socio-economic activities. As HPCF learned, its members became effective at complying with forestry legislation, but social learning opportunities and outcomes became more restricted. This chapter suggests that social learning in a CF context may not always continue to result in increased participation and learning. This is an important finding because community forestry supporters frequently suggest that community forestry is a model that engages all sectors of the

community and contributes to social, environmental, and economically equitable outcomes (Bullock and Hanna 2011; Charnley and Poe 2007; Teitelbaum et al 2006). My research findings show that the benefits of community forestry can change over time, and indeed, become less desirable or less equitably distributed.

The third chapter (second manuscript) provided an opportunity to examine and learn about external actors who influence social learning, with a specific focus on an organization in a developing country setting, KICODA. The findings in this chapter showed that generally, what people learned about while participating in CFM in developing and developed countries had common and distinct characteristics. For example, people learned about business setup and management in both cases; however, in the Canadian case (as illustrated in the first manuscript, Chapter Two), participants learned about medium-sized corporate business management, whereas in the Ugandan case they learned about small personal business management. More importantly, the third chapter illustrated how NGOs, acting as change agents, influenced both social learning outcomes and CFM outcomes. Although these NGOs influence social learning, the chapter also showed that they are not using the opportunity provided by CFM to learn from the local-level organization they support. Learning typically progresses from the extra-local to the local level. NGOs are recognized as an integral part of development work and environmental governance, yet, to date, there has been no research about their influence on social learning and CFM. This paper contributes to a greater understanding of the mechanisms and activities by which NGOs influence social learning and ultimately, the effects on CFM.

The fourth chapter (third manuscript) examined factors that affect social learning opportunities and outcomes in both a developed country and a developing country setting. The chapter identified gender as an important factor, but showed that it is not the sole factor shaping

social learning. Differences by gender were also connected to values, literacy, and education of both women and men. These multiple differences shaped the activities men and women undertook, and the opportunities and the constraints they faced in relation to learning and participation in governance. Social learning opportunities and outcomes were affected by the values that people held, as well as the education and literacy levels of individuals. For example, in both Canada and Uganda, more highly-educated women had more opportunities for participation in leadership positions and ended up being more effective participants in forest governance than their lower-educated male counterparts. The chapter also highlighted the effect affirmative action in Uganda was having on women's effective participation, since women's participation in KICODA was high. This manuscript also enabled the questioning of assumptions that have been taken for granted where constraints on participation and social learning have been investigated in a single-country setting.

In summary, by illustrating that (a) social learning opportunities and outcomes can become restricted over time, (b) NGOs influence social learning and CFM outcomes, and (c) gender, education, and values influence access to participation and social learning opportunities, this thesis confirmed that social learning contributes to effective forest governance in both developing and developed country settings. It explains that while there are distinct characteristics of social learning in each country setting, and despite significant differences in the context of forestry and standard measure of economic development, there are some shared characteristics across cases. For example, both cases favoured meetings as the most common social learning process. Perhaps surprisingly, in both cases, there remain gendered differences in relation to learning. In addition, in both cases, government established the policy framework for collaborative forest governance which in turn set the context for social learning at the local level.

Actors operating locally worked within these parameters, although in both cases they demonstrated significant influence.

5.2 Challenges

Although the thesis research objectives were addressed, the following challenges were encountered during the study. Firstly, the amount of documented source materials was not balanced across the two cases. Whereas HPCF had a website, electronic and paper reports, meeting minutes, and other documents, KICODA did not have much by way of paper documentation. Nearly all information about KICODA had to be obtained from interviews with members, NGO staff, and government employees. Thus, although I had originally planned to use document analysis as part of my methodology, I dropped it. Fortunately, I was able to collect data using other methods that are commonly used in similar studies, such as interviews, focus group meetings, and participant observation.

Secondly, the representation of interviewees at Harrop-Procter was skewed. I used the snowball method of identifying participants for personal interviews, whereby each interviewee was asked to provide one to three names of potential interviewees. Each person was contacted at least three times by phone and email. I also welcomed suggestions from people I met in public places such as the village bakery at Procter village. Despite these efforts, I was not able to interview anyone who was a logger from an old resource family, so I could not acquire first-hand information/observations from these longstanding families.

Thirdly, most of KICODA's interviewees were either not comfortable using English for interviews or could not speak English; consequently, 20/31 interviews were conducted in vernacular. Although I could understand two of the three main languages that were commonly

used, I was not fluent enough to conduct interviews in those languages and therefore had to use interpreters. I used both male and female interpreters for male and female participants respectively. I was careful to sit facing the interviewee and to address my questions directly to the interviewee so that I engaged them. I also studied the interviewees' expressions and body language, and listened to their tone of voice in order to try to follow up on what they said, or to probe. I usually built up enough rapport that interviewees addressed me directly, made jokes, and even used English words in the interview sessions. Being Ugandan helped me to understand some of the unusual phrases (e.g., 'patrolling yours is patrolling' meant 'taking part in forest patrols took up a lot of my time'; 'when you sit in a *mabati* house all you hear is rain' meant 'I couldn't understand anything they were saying', 'buttocks burning allowance' meant 'pay me for participating in the interview'; 'my body is now cold/weak' meant 'I am discouraged'), but I suspect I may have occasionally missed the nuances of what was being said.

And finally, although I was welcomed by both KICODA and HPCF, and I treated the study participants with respect and attempted to get to know them, their accomplishments, their issues, and settings, I was obviously not a member of the local community. As an 'outsider,' one is sometimes blind to the nuances of life within a community. I may have missed something. But I hope that any omissions on my side would have been compensated for by the information and insights I obtained through interviews, focus groups, key person interviews, and formal and informal activity observation, as well as literature review. In the following section, conclusions from the study are presented and areas for future research highlighted.

5.3 Significance of Study

Social learning in natural resource management is a relatively new research area; it first appeared in natural resource management literature in the mid-1990s (see, for example, Daniels and Walker 1996; Webler et al 1995). However, it only emerged as a distinct research area after the turn of the 21st Century (Keen et al 2005; Muro and Jeffrey 2008; Pahl-Wostl and Hare 2004; Schusler et al 2003). The past ten years have seen a marked increase in scholarly debates about social learning in natural resource management that culminated in an acceptance of social learning as a field of study, albeit still being defined (Cundill and Rodela 2012). By using the definition of social learning conceived after an extensive review by Reed and ten other scholars (2010), this thesis research contributes to the development of the theory of social learning in natural resource management.

The introductory thesis chapter outlined some of the gaps in the understanding of social learning, in particular how social learning evolved over time, who influenced social learning and its outcomes, the lack of literature on the role of NGOs in social learning, and how men and women learn. By addressing these questions, this thesis specifically contributes to a clearer understanding of these issues as they pertain to social learning theory.

This study contributes to a clearer understanding of who influences social learning during collaborative forest governance. In both Canada and Uganda, we see government setting the framework for learning using the forest policy—government is a main influence on what is learned. However, we also see how governance structures selected by a forest-based community and external actors in the form of NGOs continue to shape social learning outcomes *after* government has set the policy framework. Governance structures and NGO activities widen or restrict social learning outcomes.

There are several studies that have examined gender in forestry (see for example, Agarwal 2010; Arora-Jonsson 2010; Reed 2010a,b) but few (e.g., Richardson et al 2011) have considered the effect of gender on learning in forest governance. Therefore, another major contribution of this study is its documentation of how men and women learn, and in so doing, describing not only the constraints that men and women face, but their effects on social learning outcomes in forest management. It also showed how affirmative action in Uganda, a developing country, was leading to effective participation by women. This finding is supported by other scholars who have suggested that a critical mass of female participants in community forestry in general, and community forestry leadership in particular, can alter gender dynamics and lead to more equitable decisions (e.g., Agarwal 2010). Surprisingly, there is no similar affirmative action process in the Canadian context, despite the fact that other developed countries such as Sweden have gender mainstreaming policies that have made significant inroads for gender equality in forest management (Toresson 2006).

Another contribution that this thesis makes is to the understanding of what happens to social learning outcomes in a collaborative forest governance process over a period of time. Although Measham (2013) suggested it takes at least 18 months for social learning to occur, no study had previously examined whether social learning outcomes and opportunities change with time.

This study is also unique in that it investigated forest-based communities in two completely different settings, a developed country (Canada) and a developing country (Uganda). Researchers have described the benefits of using different settings or cases (Arora-Jonsson 2010; Yin 2009). Although the approach has inherent challenges, by using two different settings this

thesis enriched the inferences that were drawn from each. Practices that were taken to be the norm were called into question when held up against practices elsewhere.

5.4 Conclusions and Suggestions for Future Research

This research adds to the knowledge about the contributions of social learning to effective forest governance in both developing and developed countries. Through this thesis research, I also confirmed previous research on social learning in forest governance; I found that social learning occurred as members of forest-based communities, HPCF and KICODA, engaged in various forest management activities. There were similarities between the developed country setting and the developing country setting with regards to what was learned; people learned about forest ecology, forest management, and collaborative forest governance in general. There were also similarities in how people learned: in both the Canadian and Ugandan cases, participating in meetings was the most common learning platform. Government in both cases set the framework for what was learned through forest policy. However, there were research findings that were specific to each of the study locations, which I will highlight before suggesting areas for future research.

The BC Ministry of Forests did not design the provincial CF program as a learning program, but it provided the policy framework that guided social learning. At HPCF, social learning was influenced by government requirements but moderated by HPCF choices. HPCF opted for a hands-on approach to forest governance and, through learning, became competent and professional at implementing CF management. However, the professionalization of HPCF seemed to reduce the overall participation and associated learning by community residents over time. Consequently, I concluded that more time does not necessarily lead to richer social learning

outcomes; it could also lead to more restricted learning opportunities. Future research could examine whether social learning leads to restricted learning opportunities and participation over time in other collaborative forest governance initiatives.

For the Ugandan case, decentralization and devolution of forest management opened up spaces for new actors that are usually not researched in the forest governance literature - national and international NGOs. Whereas the Ugandan Ministry of Water Lands and Environment set the framework for what was learned through forest policy, social learning was moderated and influenced by NGOs. NGO participation in CFM resulted in interventions that enabled NGOs to meet their mandate, but that did not help KICODA to become independent of NGO support. I posit that due to the necessity of NGOs working within their organizational mandates, social learning outcomes at Budongo Forest Reserve will continue to be shaped by NGO mandates and could be restricted to a type of learning that is mostly task-oriented and geared towards acquiring new information and skills (Sinclair et al 2011). Future research could explore how CFM organizations can learn and eventually become independent of donor support. Research could also explore how NGOs provide conditions to support different levels of learning in both developed and developing country settings.

When I examined gender, participation, and social learning in both Canada and Uganda, I found that collaborative forest governance continues to privilege men's participation in forest governance, although not as much as reported in previous studies. Social learning opportunities in collaborative forest governance approaches were gendered, but education, literacy, and organizational values also enabled or constrained social learning opportunities. It seems that affirmative action as enshrined in Uganda's national constitution has contributed to women's increased effective participation in forest governance. Although Canada practices affirmative

action through employment equity policies that apply to all economic sectors, more specific actions supporting gender mainstreaming are absent in the forest sector (Reed et al 2014). Future studies could explore the application of affirmative action and gender mainstreaming strategies to forest management and governance in both developing and developed countries.

The importance of social learning to collaborative forest governance cannot be overstated. Collaborative forest governance in itself is a process that requires learning by the forest-based communities that engage in it. Because collaborative forest governance brings together people with different backgrounds, values, needs, and resources, if social learning becomes an explicit goal, it may contribute to management practices that seek to ensure that forests are managed for a range of economic, social, cultural, and environmental values.

Acknowledging the place of social learning in collaborative forest governance and understanding the role that external actors play in facilitating learning and governance can lead to the design and implementation of collaborative forest governance approaches that meet the goals of sustainable forestry.

This thesis investigated the contributions of social learning to collaborative forest governance in forest-based communities in Canada and Uganda. The thesis findings cast more light on social learning processes and outcomes in participatory settings. The thesis makes a significant contribution to the understanding of social learning in collaborative forest governance initiatives, especially with regard to who influences learning, who learns during forest governance, and how social learning opportunities evolve over the life of a collaborative initiative.

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LIST OF APPENDICES

Appendix 1 Personal Interview Guide

Interview No:..... Date:.....
Location:..... Gender:.....
Duration:..... Interviewer:.....

The purpose of this interview is to investigate the contribution of social learning to collaborative forest governance in your community. Generally we will be talking about:

- *Your experiences as a community member*
- *What the forest association has meant for you and the community*
- *The activities that are implemented by the association and who gets to participate*
- *The things you have learned as you participated in forestry related activities*
- *The changes that are made to the association's activities based on social learning*

Part 1: Introductory Questions

Please tell me a bit about yourself:

1. How long have you lived in this community?
2. What do you do for a living?
3. When did you join the forest association and why did you join it?
4. Do you serve on the forest association's committee or as a board member? If yes when did you start and what do you do?
5. What do you use the forest for?
 - What do you harvest from the forest?
 - How often do you harvest items from the forest?
 - If you are unable to get these items from the forest, where else would you get it from?
6. If you do not harvest anything from the forest, how else do you benefit from the forest?
7. How are resources (material/financial) from the forest allocated to members?

Part 2: Participation in Collaborative Forestry Activities

General participation

8. Can you describe some of the forestry related activities that the association conducts?
9. How often are they conducted? (*weekly, monthly, yearly, by season*) And how long does each activity last?
10. Who leads these activities? (*paid or unpaid, community or non-community members*)?
11. Can you describe some of the association activities that you have participated in?
12. How often do you participate in the association's activities (*e.g. meetings, forest monitoring, harvesting timber, harvesting non timber forest products*)?
13. What are some of the things that enable you to participate in the association?
14. What are some of the things that limit your participation?
15. Would you like to participate more or less and why?
16. What could be done to enable you to participate more or less in the association's activities?
17. Who participates in the association's forestry related activities? (*members, men, women, community members, association members*)
18. How is participation in the association's activities determined? (*by invitation or open to all*)
19. Who else would you like to see participate in the association and what could be done to enable them?
20. If you could, what other activities would you suggest the association implements and why?
21. And if you could, what activities would you suggest that the association stops implementing and why?

Gender and participation

22. How are decisions made in the association?
23. Is there any group that seems to dominate the decision making process?
24. What could be done to enable the other group to also influence decision making?
25. Are the decisions that are made equally beneficial to both men and women?
26. How would you compare participation in the association by men and women?
27. In your opinion, is there any group that needs to participate more in the association's activities?
 - Name the group
 - Why are they under represented
28. What could be done to increase the participation of the under-represented group?
29. Are women able to participate in the association's activities

Part 3: Social Learning

30. I would like to know if you learned any specific information or skills from participating in the association's forestry related activities:
 - Describe the new skills and what you used it for?
 - Did you share it with other people?
 - Describe new information, what was it about (forestry, management, timber harvesting, tourism, etc.)? What did you use the new information for?
 - Did you share it with other people?
31. Can you describe a project or an activity that you learnt the most from;
 - What was the project/activity?
 - What is the most important thing you learned?
 - How did you learn and what have you used what you learnt for?
32. Are there any association forest-related projects/activities that you engaged in and they did not work? What did you learn from the experience?
33. Through participating in the association, would you say your knowledge about forestry has changed? How so?
34. Through your own observations, what things have changed at the association?
 - Which things changed?
 - What caused the change?
35. Looking at the things which are currently done by the association, are there things which could be done differently?

Part 4: Conclusion

36. What have you learnt about the association that you did not know before joining and participating in its activities?
37. What have you learnt about collaborative forest management from other similar associations?
38. In your opinion, what contribution does the association make to the community?
39. What contribution does the association make to the forest in your community?
40. Do you see any connection between the activities that the association is implementing and the effective management of the forest? What is the connection?
41. Do you see any connection between the activities that you are involved in and the effective management of the forest? What is the connection?
42. Are there any additional comments you would like to add?

Thank you for your time.

Appendix II Focus Group Meeting Guide

KICODA Focus Group Meeting Guide

Date:

Focus Group No:

Location:

No of participants:

Meeting start time:

Meeting end time:

Moderator:

Assistant(s):

Welcome and introduction.

Good morning/afternoon and welcome to this session. Thank you for taking the time to join us to talk about CFM in Kapeka. The purpose of this focus group meeting is to enable me share some findings from the interviews that were completed and also to hear from you as a group. We will be discussing:

- *KICODA's learning about CFM as an organization*
- *KICODA's level of activity*
- *Women's contribution during meetings and seminars*
- *KICODA's future plans*

The results of this meeting will enable me understand community management of forest and how communities learn and adjust their activities in order to meet their CFM goals. We will be having discussions with more groups like this in Kapeka. You were invited to this meeting because you live here and are familiar with forest activities and issues in your community.

Although you were invited to the focus group meeting and I am glad that you are here, I need your consent for the meeting. I have forms that can be signed and returned at the end of the meeting. If you are not interested in participating, please feel free to leave the meeting. If you change your mind at the end of the meeting, please let me know.

Please note that:

- *There are no right or wrong answers, only differing points of view and I am interested in hearing all of them.*
- *You don't need to agree with others, but you must listen respectfully as others share their view.*
- *I will also ask that one person speaks at a time so that we can get what they are saying.*
- *People often say very useful things in group discussions but we can't write fast enough to get all of them down. I am recording because I do not want to miss any of your comments.*

- *Let's use first names for this meeting but I won't use any names in my report. You may be assured of confidentiality.*
- *We ask that everyone turns off their cell phone. If you must respond to a call, please leave the group quietly, rejoin us as quickly as you can.*
- *My role as moderator will be to guide discussion. xxx role is to assist with translation. xxx will assist with taking notes. We have arranged for refreshments to be served at the end of the meeting.*
- *Please talk to each other.*

I suspect you all know each other, but for my sake and maybe the note taker, let us say our names. Thank you.

1. KICODA is a CBO that is involved in a number of activities. One of the major activities is collaborative forest management (CFM). What has KICODA learnt about CFM and who did it learn from?
2. One thing that has come out of the interviews is that KICODA is currently not as active as it used to be like for example four years ago. There are fewer association meetings, seminars, and activities. People for example have cited that there is no nursery bed.
 - Why is KICODA not as active as before?
 - What can be done to make KICODA active again?
3. Another thing that has come out of the interviews is women's participation: women have joined KICODA, there are 82 women out of the 106 members as of February 2013. The executive has 6 women and 6 men. Both men and women say that when women are in an activity, like nursery bed, they can really work. But women's contribution is limited during meetings and seminars, in that some women don't come or some of the ones that come don't speak up:
 - What is limiting women's participation during meetings and seminars?
 - What can be done to enable these women to contribute more?
4. Over the years, KICODA has sought funding for and implemented various activities e.g. tree planting, bee keeping, nursery bed establishment, animal and poultry rearing, etc.
 - Which project is KICODA most proud of as an organization and why?
5. As an organization, KICODA should be planning for the future:
 - What project would KICODA want to implement next?
 - How was the project selected?
 - Why do you want to implement this project?

Thank you for your time. Thank you once again for contributing to my understanding of forestry issues in this community.

HPCF Focus Group Meeting Guide

Date:

Focus Group No:

Location:

No of participants:

Meeting start time:

Meeting end time:

Welcome and introduction.

Good morning/afternoon and welcome to this session. Thank you for taking the time to join us to talk about community forestry in Harrop-Procter. The purpose of this focus group meeting is to enable me share some findings from the interviews that were completed and also to hear from you as a group. We will be discussing:

- *HPCF's learning about community forestry as an organization*
- *HPCF's level of activity*
- *Women's contribution during meetings and seminars*
- *HPCF's future plans*

The results of this meeting will enable me understand community management of forest and how communities learn and adjust their activities in order to meet their community forest goals. We will be having discussions with more groups like this in Harrop-Procter. You were invited to this meeting because you live here and are familiar with forest activities and issues in your community.

Although you were invited to the focus group meeting and I am glad that you are here, I need your consent for the meeting. I have forms that can be signed and returned at the end of the meeting. If you are not interested in participating, please feel free to leave the meeting. If you change your mind at the end of the meeting, please let me know.

Please note that:

- *There are no right or wrong answers, only differing points of view and I am interested in hearing all of them.*
- *You don't need to agree with others, but you must listen respectfully as they share their view.*
- *I will also ask that one person speaks at a time so that we can get what they are saying.*

- *People often say very useful things in group discussions but we can't write fast enough to get all of them down. I am recording because I do not want to miss any of your comments.*
- *Let's use first names for this meeting but I won't use any names in my report. You may be assured of confidentiality.*
- *We ask that everyone turns off their cell phone. If you must respond to a call, please leave the group quietly, rejoin us as quickly as you can.*
- *I have arranged for refreshments to be served at the end of the meeting.*
- *Please talk to each other.*

I suspect you all know each other, but for my sake, let us say our names. Thank you.

1. Harrop-Procter Watershed Protection Society (HPWPS) was formed to protect the forest in the watershed. One of the major activities was to obtain a community forest licence. How did HPWPS learn about community forestry?
2. HPCC oversees forestry operations. Before the hire of a forestry professional, how was the forest managed? What has HPCC learnt about forest management and who did it learn from?
3. One thing that has come out of the interviews is that HPCF is getting (a) fewer people volunteering for the board and (b) fewer people at the AGM. What can be done to recruit new board members and or increase AGM attendance?
4. Can you describe a time when the CF had to change its activities in order to meet its management objectives or mandate, describe the situation and what was done?
5. What are some challenges that the Coop has faced in regards to forest management? What has the Coop done to deal with those challenges?
6. Over the years, HPCF has initiated a variety of activities and initiatives e.g. mill, logging, water monitoring, school visits, forest tours, etc.
 - Which project is HPCF most proud of as an organization and why?
 - Which project is HPCF least proud of as an organization and why?
7. As an organization, HPCF should be planning for the future:
 - What project would HPCF want to implement next?
 - How was the project selected?
 - Why do you want to implement this project?

Thank you for your time. Thank you once again for contributing to my understanding of forestry issues in this community.

Appendix III Key Person Interview Guides

Ugandan Non-Governmental Organizations Interview Guide

The purpose of the research project is to investigate the contribution of social learning to effective collaborative forest governance in two forest-based communities in Canada and Uganda. The objectives of the research project are to:

1. Describe what forest-based communities are learning as they engage in collaborative forest governance.
2. Evaluate learning opportunities found in activities implemented by forest-based communities during forest management.
3. Identify groups in forest-based communities that are involved/not involved in learning during forest governance.
4. Determine whether social learning contributes to effective forestry governance at study sites.

Institutes like ... (NGO name) work with the CBOs to enable them to meet their objectives. They provide technical and financial support to these CBOs.

Questions

1. Can you give a brief overview of your organization's program in Budongo?
2. How does your organization identify which CBOs to work with?
3. What assistance does your organization provide to CBOs around Budongo Forest?
4. What assistance has your organization provided to KICODA?
5. What challenges has your organization faced in working with KICODA?
6. What are some of the success stories around Budongo Forest?
7. What does your organization's support contribute to the conservation and effective management of Budongo Forest?
8. What future activities have you planned for KICODA and why?
9. KICODA is not as active due to lack of finances amongst other things, what is your organization doing to encourage self-sustainability?
10. Are CBOs evolving to reflect learning?

Canadian Non-Governmental Organization Interview Guide

The purpose of the research project is to investigate the contribution of social learning to effective collaborative forest governance in two forest-based communities in Canada and Uganda. The objectives of the research project are to:

1. Describe what forest-based communities are learning as they engage in collaborative forest governance.
2. Evaluate learning opportunities found in activities implemented by forest-based communities during forest management.
3. Identify groups in forest-based communities that are involved/not involved in learning during forest governance.
4. Determine whether social learning contributes to effective forestry governance at study sites.

Institutes like BC Community Forest Association (BCCFA) work with the CFs to enable them to meet their objectives. They provide technical and financial support to these CFs.

Questions

1. Can you give a brief overview of BCCFA program in BC?
(e.g., provide information about number of signed CFAs, number of pending CFAs, rejection rate for CFAs, common reason for rejection of CFA applications, etc.)
2. Describe the type of support that BCCFA provides (a) during application for CFA and, (b) for established CFs.
3. Do CFs request assistance from BCCFA? What types of assistance?
4. What assistance has BCCFA provided to the following CFs since they started:
 - HPCF
 - Creston Valley Forest Corporative
 - Slocan Integral Forestry Cooperative
5. What are some of the success stories around BC? Elements of success. Compare with BCCFA mandate.
6. What challenges/constraints has BCCFA faced in working CFs?
7. What are some of the challenges to implementing community forestry in BC?
8. AACs of community forests seem to be increasing, is there pressure for community forests to cut more in order to meet mandate of employment and economic benefits?
9. Participation: how do you determine (a) community and (b) First Nations participation?
10. How does BCCFA's support contribute to the conservation and effective management of BC forests?
11. Are CFs evolving to reflect learning? If older community forests and more recent community forests are compared, is there any noticeable difference in set-up process, organizations structure, etc.?

Ministry of Forest, Lands and Natural Resource Operations Interview Guide

Thank you for agreeing to participate in this study. I will provide a bit of background about my research before we start the interview.

The purpose of my research project is to investigate the relationship between social learning and collaborative forest governance in two forest-based communities in BC, Canada and Masindi, Uganda. Collaborative forest governance is a governance arrangement whereby a non-government entity either works with government to manage a natural resource or works within a government policy framework to manage a resource. The communities to be investigated have signed an agreement with government to manage all or a section of a forest. The objectives of the research project are to:

5. Describe what forest-based communities are learning as they engage in collaborative forest governance.
6. Evaluate learning opportunities found in activities implemented by forest-based communities during forest management.
7. Identify groups in forest-based communities that are involved/not involved in learning during forest governance.
8. Determine whether social learning contributes to effective forestry governance at study sites.

Data will be collected through personal and group interviews. In addition to interviewing community members, I am also interviewing people from government departments that are responsible for the overseeing community forestry and NGOs that provide support to CFs and community based organizations. The Ministry of Forest Lands and Natural Resource Operations (MFLNRO) administer community forestry agreements (CFA) and then supervise CFs (CFs). I would like to find out more about community forestry from MFLNRO. I am still learning about community forestry in BC so some questions or words/phrases I used may reflect my ignorance about the subject.

Questions

General Questions

1. Can you give a brief overview of MFLNRO community forestry program?
2. How does MFLNRO work with community forests/community forestry organizations? What kind of support does it provide?
3. How does MFLNRO work with BC Community Forestry Association (BCCFA) to implement community forestry in BC?
4. During interviews at the community I have been told, community forestry was the way to keep commercial timber companies from destroying the forests or views capes. How different is timber harvesting by CFs from timber harvesting by companies?

5. Is community forestry more about harvesting timber or about conserving the environment or about providing local benefits to the communities? What is the focus of the program, in other words when government started it, what was the focus? Has it changed?
6. Community forestry has been implemented for almost 15 years, what lessons has MFLNRO learn from the initiative?
7. If older community forests and more recent community forests are compared, is there any noticeable difference in set-up process, organizational structure, etc.? In other words, are community evolving to reflect learning?

Questions about CFs in the Kootenay/Selkirk district

8. What are some of the success stories about community forestry in the region?
9. What challenges does MFLNRO face in working with CFs in the region?
10. Is there pressure for community forests in the region to cut more in order to meet the mandate of employment and provision of economic benefits?

Community Forestry Agreement Renewal

11. Could you briefly outline the CFA renewal process?
12. What are some of the things that MFLNRO looks for when renewing a CFA?
13. Are there other things you think I should be aware of?

Thank you for participating in this study.

National Forest Authority Interview Guide

Part I – General information

1. When did CFMA start?
2. Length of typical CFMA process
3. Length of CFMAs/contract length
4. Statistics of CFMA agreements signed to date and those being processed
5. Description/characteristics of active CFMAs
6. Success stories of CFMAs

Part II – Learning Opportunities in CFMAs

1. What are some characteristics of successful CFMAs
2. What are some characteristics of inactive CFMAs
3. What kinds of learning opportunities exist in CFMAs/CBOs
4. Are there opportunities for women and youth to participate in CFMA

Part III – CFMA and Forest Protection/Sustainable use

1. How are CFMAs meeting goals for which they are set?
2. What factors are used to assess CFMAs?

Part IV - Factors Limiting CFMAs

1. What are some of the skills/resources of CBOs?
2. The absence of licenses for CBOs limit access some forestry resources like timber, what is being done to address these limitations?

Part V – Budongo CFMAs

1. Can you please provide me with copies of CFM agreements for Budongo CFMAs especially NOBUFOCA, BUNCA, KICHODA, NECODA?
2. How would you compare the performance of Budongo CFMA against CFMAs from rest of country?

Part VI- Way Ahead

1. Has NFA reviewed CFMAs to date?
2. Does NFA intend to assess CFMAs to ensure they are implemented?
3. What is the future of CFMAs in Uganda

Thank you for participating in this study.