

Locally Based Criteria and Indicators of Sustainable Forest Co-management

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Abstract

Criteria and indicators (C&I) frameworks have been created to monitor and assess sustainable forest management (SFM) at many scales. Of the many components of SFM, social values are the least understood, particularly values of Aboriginal communities. While work to further understand community level values is ongoing, it is often dictated by national or international interests. A case study of the co-managed John Prince Research Forest provides insight into the values of partners and stakeholders, both Aboriginal and non-Aboriginal. Through a community-centred process, our research has identified 19 criteria, and 86 indicators. While these C&I provide an example of what is important in one case, it is the process which may be of most relevance to others seeking to identify local forest values.

Background

The John Prince Research Forest (JPRF) a 13,000 ha forest is jointly managed by Tl'azt'en Nation and the University of Northern British Columbia (UNBC) as a research and educational facility. The JPRF is economically self-sustaining, and profits must be reinvested in operations and infrastructure. JPRF owns and operates the Cinnabar Research Station and Resort. Income is generated primarily from logging.

Research Context

C&I of sustainability: C&I of sustainable forest management are an accountability system envisioned by the international community in 1993. Eventually, seven criteria and 67 indicators were put forth as Canadian standards for sustainable forest management. These criteria focus on biological diversity, forest productivity, ecosystem health, soil and water, carbon cycling, socio-economic benefits, and a supportive management framework.

Local scale: Prevailing C&I have been developed by experts such as ecologists, sociologists, and economists. In contrast, our approach seeks to elucidate local perspectives and test a community-based methodology.

Social sustainability: The ecological emphasis of previous C&I has left forest managers with little information on the management, assessment and monitoring of social and cultural values. As well, economic instability in forest-based communities calls for a re-evaluation of economic indicators.

Methods

In contrast to expert-driven or *ad hoc* approaches, the participatory, community-centred process developed through this project was designed to address sustainability concerns at the local level. This research has developed and tested the method described below to develop local-level C&I of sustainable forest co-management. While these steps have a distinct order, the process is reflective and can be revised based on new knowledge or different contexts.

1. Project Planning and Preparation

- Develop community support
- Hire project staff
- Collaboratively develop research design
- Train and mentor project staff

2. Background Research

- Create candidate C&I from co-management literature and case study analysis
- Create candidate C&I from analysis of existing frameworks and community archives

3. Participant Selection

- Elicit participant nominations from staff, board of directors and advisory group
- Obtain peer recommendations from selected participants
- Identify significant local forest actors to ensure adequate representation of partners and stakeholders

4. Data Collection

- Generate interview guide based on candidate C&I
- Pre-test interview protocol and guide using debriefing, behaviour coding and focus groups
- Collect local values, concerns and ideas through semi-structured interviews of co-management partners and stakeholders
- On-going participant and interviewer evaluation of interview process

5. Data Management and Processing

- Make copies of interview tapes and archive
- Transcribe recordings
- Review and edit transcripts
- Verify transcripts with participants

6. Data Analysis

- Summarize interviews using content analysis
- Compile data with local expert working group
- Verify compilation with research team

Results: Local-level Criteria and Indicators

Partnership Building

- Effective working relationships among co-management partners
- Effective relationships with local groups
- Effective cross-cultural working relationships

Tl'azt'en Culture

- Promote cultural revitalization
- Promote cultural rediscovery

Diverse Training Opportunities

- Provide training opportunities for external groups
- Provide training opportunities for partners

Diverse Outreach Activities

- Create awareness about the JPRF
- Create awareness about co-management
- Create awareness about effective cross-cultural working relationships
- Create awareness about First Nations values and approaches
- Share information and knowledge gained on the JPRF with Tl'azt'en Nation
- Share information and knowledge gained on the JPRF with academic audiences
- Share information and knowledge gained on the JPRF with surrounding communities

Diverse Natural and Social Science Research Opportunities

- Conduct research in conservation, forest management, manufacturing, forest policy, ecology, forest health, wildlife, soil, fish, water, plants, recreation and tourism, traditional knowledge and traditional use, First Nations' approaches to resource management, co-management, education, economics, social issues, health, history, and infrastructure development

Cross-Cultural Learning and Sharing

- Cultivate cross-cultural awareness and understanding
- Provide diverse opportunities for cross-cultural learning

Diverse Education Opportunities

- Provide professional education opportunities
- Provide general public education opportunities
- Provide cultural education opportunities
- Provide science education opportunities

Diverse Demonstration Opportunities

- Demonstrate Tl'azt'en traditional land use and management activities
- Demonstrate the potential of co-management
- Demonstrate alternative forest management structure and practices

Research Approach

- Partners' needs and priorities guide research
- Utilize appropriate research approaches and methods
- Support research

Meaningful Tl'azt'en Participation in Forest Management

- Incorporate and apply traditional systems
- Contribute to Tl'azt'en forest management capacity
- Respect Aboriginal rights and title
- Co-operate with Tl'azt'en Nation to plan and implement forest management activities to identify, protect, and enhance sites of ecological, cultural, economic, social, or spiritual significance

Community Health and Well-Being

- Contribute to the quality of life in surrounding communities
- Develop and maintain programs that promote social well-being
- Foster empowerment through the co-management experience
- Contribute to community development

Business Management

- Operating principles
- Sustainable economic development
- Economic diversification
- Revenue generation

Facility and Infrastructure Needs

- Cinnabar Resort development
- Girl guide camp development

Recreation and Tourism

- Provide diverse recreation opportunities
- Develop local tourism opportunities

Traditional Land Use Activities

- Ensure fulfillment of the economic and social functions of the forest for Tl'azt'enne
- Provide for diverse traditional land use activities of importance to Tl'azt'enne

Employment Opportunities

- Build employment skills
- Provide diverse employment opportunities
- Provide diverse forms of employment
- Ensure equity of employment opportunities
- Employment opportunities support Tl'azt'en culture and values
- Employment increases community well-being
- Provide meaningful employment opportunities

Local Economic Development

- Support participation of local communities in forest-based economic opportunities
- Contribute to economic diversification of the region
- Ensure equity in distribution of economic benefits
- Provide small-scale economic benefits

Holistic Forest Management

- Incorporate multiple values in management
- Balance needs in forest management
- Manage according to best practices and principles

Forest Ecosystem Condition and Function

- Implement high standards of environmental protection in forest operations
- Maintain ecosystem health
- Maintain biological diversity
- Protect riparian areas
- Protect water resources
- Protect soil resources
- Protect air quality

Future Research Direction: Measuring Indicators

These C&I provide a starting point for developing community-based measures to monitor, evaluate and direct sustainable forest co-management. During the next 3 years, we will focus on verifying, prioritizing, and elaborating this framework. We will also develop a complementary set of C&I on the processes of successful co-management. Our goal is to create a management and monitoring process that is responsive to the values, expectations, and changing needs of co-management partners and stakeholders. Our next step is to develop functional measures for each indicator.

While measures have been developed elsewhere, they are predominately quantitative, selected by experts, and focus on large-scale concerns. As an on-the-ground evaluation tool, these measures will make the critical accountability link from theory to practice. Critically, measures must evaluate indicators accurately; therefore a community-based process must be maintained.

For example, we know that it is important to build employment skills, but how should success be measured? Traditional approaches suggest counting the number of training courses offered, but this may not be adequate for community members. Perhaps previous courses have experienced high drop-out rates. In this case, a more appropriate measure may focus on the satisfaction of participants, or how well employees are able to learn in the workplace.

Initial work will engage Tl'azt'en community members in developing a set of measures for a small number of high-priority indicators. Planning is underway to develop an iterative process, involving nomination of local experts, interviews, focus groups, and a group verification process. Once appropriate measures are identified, a comparison to measures used in other projects will be carried out to identify the unique insights a community-based approach provides.

Conclusion

In contrast to top-down, expert driven approaches, the local level C&I framework has shown a far greater emphasis on social and cultural values. While the context of this particular land base is unique, the process offers a new approach to C&I, and results provide an example of the range and diversity of values expressed by one set of co-management partners and stakeholders.