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Aboriginal Land Planning In Canada: The Role Of Strategic Environmental Assessment In Adaptive Co-Management



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ABSTRACT

This report is the product of a partnership between GEIGER (Group of Interdisciplinary Studies in Geography and Regional Environment) and the Atikamekw Nation. It suggests implementing an environmental assessment system to foster meaningful Aboriginal participation in federal and provincial environmental assessment procedures. The system involves a preliminary planning procedure for land belonging to this Nation or other Aboriginals. This step allows them to establish themselves as well as their economic, social, cultural and environmental goals. A direct result of the planning process, the environmental assessment tools developed represent a practical solution for decision-making (with regards to a project, plan or program) when:

- Stakeholders claim their rightful place
- Debating the true issues
- Appropriate (advisory and decision-making) mechanisms are put into place

In order to model the current federal and provincial systems after the one developed by the Aboriginal nations, adaptive co-management represents the method of choice. By establishing a relationship between stakeholders, the system aids in balancing the use of scientific and Aboriginal knowledge.

Following a Strengths-Weaknesses-Opportunities-Threats analysis of the data collected in the field and those extracted from literature, we have made additional recommendations, including indigenous planning, balancing knowledge and possible linkages regarding certain legal aspects.

TABLE OF CONTENTS

1. INTRODUCTION	14
2. CONTEXT.....	15
2.1 Research framework	15
2.2 Definition of objectives	19
2.3 Defining key concepts	19
2.4 Brief portrait of the Atikamekw Nation	26
3. RELEVANCE OF THE ISSUE	28
4. METHODOLOGY.....	31
4.1 Research Postulates	31
4.2 Data collection.....	32
4.3 Description of the case studies.....	35
4.4 Data collected in the field: three dimension studies.....	37
4.5 Data analysis.....	39
5. RESULTS: LESSONS FROM THE LITERATURE.....	41
5.1 Endogenous planning.....	41
5.2 Balance between Aboriginal and scientific knowledge	42
5.3 Linkages between processes	44
6. RESULTS: LESSONS FROM THE CASE STUDIES.....	49
6.1 Australian Aboriginal involvement in the EA of a mining project.....	49
6.2 Great Barrier Reef co-management in Australia.....	50
6.3 Cooperation in environmental and traditional practices in Indonesia.....	51
6.4 Knowledge union in Thailand	51
6.5 Management of the Gwaii Haanas Park in British Colombia	51
6.6 Aboriginal involvement in an EA in Saskatchewan.....	52
6.7 Comparing environmental practices in Tanzania and Sweden.....	52
6.8 Managing fauna in Nunavut.....	52
6.9 Synthesis.....	53
7. RESULTS: LESSONS FROM THE FIELD SURVEYS.....	54
7.1 Endogenous planning	54
7.2 Balance between Aboriginal and scientific knowledge	60
7.3 Linkages	68
8. CONSEQUENCES FOR ENVIRONMENTAL ASSESSMENT PRACTICES ..	75
8.1 Analysis of factors favourable to linking Aboriginal procedures and federal and provincial procedures	76
8.2 Proposals for the Atikamekw case	80
8.3 Toward a typical process	82
8.4 Detailing the endogenous process	87
9. RECOMMENDATIONS.....	91
9.1 Recommendations linked to legislation	91
9.2 Recommendations linked to endogenous planning	92
9.3 Recommendations linked to the balance between the different branches of knowledge	93
9.4 Recommendations on linking procedures	94

10. CONCLUSION 96
The environmental assessment procedures are effective decision tools if:.... 96

LIST OF FIGURES

Figure 2.1	Co-management	11
Figure 2.2	Adaptive co-management	12
Figure 2.3	Aboriginal Nations in Quebec	14
Figure 2.4	Multi-party governance	15
Figure 4.1	Location of case studies	22
Figure 8.1	The review and assessment procedure for environmental impacts in Southern Quebec	72
Figure 8.2	The review and assessment procedure for environmental impacts in Northern Quebec	73
Figure 8.3	Simplified federal environmental assessment procedure	74
Figure 8.4	Endogenous planning procedure proposed within the context of adaptive co-management	78
Figure 8.5	First Nations' viewpoint on the action plan of environmental management	83

LIST OF TABLES

Table 5.1	Scale in citizen participation	33
Table 8.1	Preliminary questions	81

LIST OF BOXES

Box 5.1	Participation requirements in the Canadian federal process	34
Box 7.1	Notice of decision further to regulation 010-3417	53
Box 8.1	<i>The Canadian Environmental Assessment Act</i>	77
Box 9.1	(Excerpt) Particular conditions and public hearings, working document – The occupation of Quebec forest land and the makeup of forest harvesting companies (Assembly of First Nations of Quebec and Labrador)	88
Box 9.2	(Excerpt) Brief on the sustainable development strategy to the <i>Commission des transports et de l'environnement</i> (Assembly of First Nations of Quebec and Labrador)	89

LIST OF ACRONYMS

Abbreviation in French	Designation	Abbreviation in English	Designation
ACEE	Agence canadienne d'évaluation environnementale	CEAA	Canadian Environmental Assessment Agency
AIB	Accords impacts bénéfices	IBA	Impacts and Benefits Agreement
		ANZECC	Australian and New Zealand Environment and Conservation Council
APN	Assemblée des Premières Nations	AFN	Assembly of First Nations
APNQL	Assemblée des Premières Nations du Québec et du Labrador	AFNQL	Assembly of the First Nations of Quebec and Labrador
CBJNQ	Convention de la Baie James et du Nord Québécois	JBNQA	James Bay and Northern Quebec Agreement
CDI	Convention définitive d'Inuvialuit	IFA	Inuvialuit Final Agreement
CGG	Conseil de gestion du gibier	IGC	Inuvialuit Game Council
		CIER	Center for Indigenous Environmental Resources
CNA	Conseil de la Nation Atikamekw	ANC	Atikamekw Nation Council
CPNY	Conseil des Premières Nations du Yukon	CYFN	Council of Yukon First Nations
ÉE	Évaluation environnementale	EA	Environmental Assessment
ÉES	Évaluation environnementale stratégique	SEA	Strategic Environmental Assessment
ÉIE	Étude d'impact Environnemental	EIA	Environmental Impact Assessment
GEIGER	Groupe d'études interdisciplinaires en		

	géographie et environnement régional		
GPS	Géopositionnement par satellites	GPS	Global Positioning System
MOU	Protocole d'entente ou protocole de collaboration	MOU	Memorandum of understanding
MRNO	Ministère des ressources naturelles de l'Ontario	MNRO	Ministry of Natural Resources of Ontario
RGDF	Réseau de gestion durable des forêts	SFMN	Sustainable Forest Management Network
	Bureau d'évaluation environnementale et socio-économique du Yukon	YESAB	Yukon Environmental and Socioeconomic Assessment Board
	Loi sur l'évaluation environnementale et socio-économique du Yukon	YESAA	Yukon Environmental and Socioeconomic Assessment Act
STA	Savoirs traditionnels autochtones	ATK	Aboriginal Traditional Knowledge
UQAM	Université du Québec à Montréal		
ONU	Organisation des Nations Unies	UN	United Nations
		WFMC	Whitefeather Forest Management Corporation

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GEIGER (Interdisciplinary Research Group in Geography and Regional Environment) is a group made of researchers from the geography department at UQAM, whose activities focus on analyzing environmental regional issues. Cutting-edge tools and methods are used such as geographic information systems and multi-criteria decision aids. Research is oriented towards ecological mapping, forestry, environmental assessment, geographical analysis of developing countries, integrated management of climate change and environment. Since 2003, Jean-Philippe Waaub, GEIGER director, has worked in partnership with the Council of the Atikamekw Nation on a land-use planning project carried out by the Nation itself aiming at sustainable co-management.

EXECUTIVE SUMMARY

This research is part of a partnership between the GEIGER (Interdisciplinary Research Group on Geography and Regional Environment) and the Atikamekw Nation, which started in 2003, and dealing with land-use management and environmental assessment. This collaboration allowed the developing and testing of a strategic environmental assessment process which would be culturally adapted to the Nation. Integrating strategic environmental assessment into land-use planning in a co-management process seems to open new solutions towards sustainable resource management. One of the objectives is to promote Atikamekw participation within the decision-making process on land-use management.

The report includes a series of definitions and key concepts used here: adaptive co-management, Aboriginal knowledge and strategic assessment. The Atikamekw Nation was presented as well.

Specific objectives are the following:

- make recommendations to develop an (strategic and operational) environmental assessment procedure while emphasizing institutional diversity at all levels
- identify factors improving institutional flexibility for land-use management which are necessary to developing adaptive co-management frameworks
- identify the changes to be made to federal and provincial environmental assessment procedures and propose linking points for a culturally adapted procedure: for Aboriginal peoples in general and the Atikamekw Nation in particular

The document deals with the pertinence of the question within the context of environmental assessment, looking in particular at the roles and responsibilities of various stakeholders, and their influence on decision-making. The importance of involving Aboriginal peoples in decisions linked to natural resource management is discussed as well. However, the heterogeneity of Aboriginal peoples forces authorities and government institutions to look for new ways for decisions to better reflect such diverse viewpoints. Adaptive co-management would allow for various perceptions to be united in order to have more harmonious decisions which would better reflect the interests and aspirations of stakeholders.

Data collection included a review of literature and a study of international cases, followed by field work during which three Aboriginal nations were visited in order to collect their comments on environmental management practices in their territories. Three (3) aspects were looked at more specifically:

- develop plans endogenous to Aboriginal people including a strategic environmental assessment procedure
- develop cooperation to unite Aboriginal and scientific knowledge in environmental assessment; and
- find linking points between environmental assessment procedures and Aboriginal approaches

The results were structured around these three aspects and are presented as lessons learned from our different approaches which are:

- the review of literature
- the study of national and international cases; and
- the field work done in Canada

The analysis of literature includes the study of eight (8) cases dealing with the union between Aboriginal and scientific knowledge. Two (2) sets of tools are discussed more specifically: mapping and assessment criteria and indicators. We may note that the linkages between Aboriginal knowledge and environmental assessment procedure can be divided into several elements. They are nevertheless not always taken into account in practice: public participation, Aboriginal resources, flexibility of the process, time scales, and impact/benefit agreements.

Other case studies dealing with natural resources management between Aboriginal and authorities are presented as well, in order to draw lessons from them. The lessons from the field work were structured into the elements mentioned above. Some of these elements appear more than others such as social impacts, power distribution, consultation, importance of interests in the structure and linkages to the Canadian Environmental Assessment Act.

These lessons are then taken to the next level by looking at how they may influence environmental assessment practice, especially regarding the linkages between Aboriginal procedures and federal and provincial procedures. A typical process is then proposed, aiming at orienting and maximizing success. It is not a static framework to enter into, but rather a series of questions that we suggest to be asked by environmental assessment practitioners, before starting any procedures.

To better illustrate possible linkages, we present the federal and Quebec provincial procedure, an example of treaty between these authorities and an Aboriginal nation (Cree Nation) as well as the latest harmonizing agreements signed in the past few years. The potential evolution for the case of the Atikamekw Nation is then discussed.

Finally, a series of recommendations are made to improve significant Aboriginal participation in environmental assessment.

1. INTRODUCTION

As a result of the ongoing Atikamekw land claims negotiations, this Nation has begun reflecting on ways in which to implement a human resources co-management framework, which would enable them to promote culturally appropriate economic development that is respectful of the land's ecology. Since 2004, GEIGER (Group of Interdisciplinary Studies in Geography and Regional Environment) has partnered with the Atikamekw Nation Council (ANC) to address land management and environmental assessment issues. This experience has helped to identify the main land and cultural challenges that the Atikamekw people face. Their cooperation in a pilot project has also helped in developing and testing strategic environmental assessment (SEA) that is culturally adapted to this Nation. Integrating a strategic environment assessment procedure in land-use planning as a part of a co-management process seems to encourage new solutions in sustainable resource management. That said, much progress has yet to be made in order to integrate planning and assessment activities on a continuous and adaptive basis. This integration represents a crucial step for an Aboriginal nation whose human and financial resources remain very limited primarily as a result of the following elements: the trusteeship system implemented by the *Indian Act*, restricted access to resources, limited participation in economic development and seemingly inappropriate finance program rules and cycles. We must also take a close look at the implementation of such an approach, while taking into consideration the ongoing land negotiations between the Atikamekw Nation and the federal and provincial governments.

The result of collaborative efforts, this research fostered the development and testing of a strategic environmental assessment framework created in consideration of the Atikamekw Nation's approach to land-use planning. Its objective is to promote Atikamekw participation within the decision-making process on land-use management, while simultaneously reinforcing their capacities in order to increase their political and economic independence.

This project seeks to:

- Carry out and implement a planning procedure
- Develop ways to maintain a certain balance between Aboriginal and scientific knowledge within this system
- Create environmental assessment system interfaces within the context of adaptive co-management

This research helps to reflect upon layout structures, interactions between culturally distinct social groups and the knowledge necessary to cooperate effectively with

regards to environmental assessment and strategic development. The experiences and interactions between decision-makers came into question within the Aboriginal context. This research has also helped to implement a number of strategic assessment mechanisms for natural resource management plans and programs adapted to cultural, environmental, economic and social realities. Its ultimate goal is to structure co-management.

The main sections within this report cover the following points:

Section 2 provides a context to improve the understanding of the project in relation to the *Canadian Environmental Assessment Act* and meaningful Aboriginal participation. It first describes the goals of the project and then defines the key terms used within this research. A brief description of the Atikamekw Nation, our research partner, concludes this section.

Sections 3 and 4 each address the relevance of the question dealt with and the methodology used. Data was collected according to three methods: analyzing literature, reviewing eight (8) national and international case studies and a field campaign in Canada. It is based on three concepts, which will help structure the presentation of the final results:

1. Endogenous planning
2. Balance between Aboriginal and scientific knowledge
3. Linkages

Sections 5, 6 and 7 provide the results for these three avenues for research. Section 8 discusses the consequences of an environmental assessment, while emphasizing issues related to linkages, proposals for the Atikamekw Nation and the typical process within an adaptive co-management context. Section 9 and 10 cover several recommendations regarding the three dimensions covered.

2. CONTEXT

2.1 Research framework

2.1.1 The Canadian Act on environmental assessment and Aboriginal peoples

Amended in 2003, the *Canadian Environmental Assessment Act* originally came into effect in 1995. The Act seeks to ensure that assessed projects respect Canada's sustainable development principles. One of the Act's objectives is to "promote communication and coordination between federal authorities and Aboriginal peoples" (Canada, 2009a). This implies that the process involves "communication," but does not

address the Aboriginals' involvement in the decision-making process, which falls under the Minister of the Environment after receiving recommendations from those responsible for the environment assessment. The Act can be applied to a project in four (4) different ways: screening, comprehensive study, mediation and review panel assessment. This project specifically focuses on the review panel, which is appointed by the Minister of the Environment and called upon when the environmental effects of a proposed project are "likely to be significant or when warranted by public concerns" (Canada, 2009a). Nonetheless, the other aspects of the Act just mentioned could benefit from the findings of this research as well. In principle, review panels offer stakeholders thus a chance to present information and express concerns. However, it does not mean it is the case in reality.

In the field of environmental assessment, the provincial and federal governments share the responsibility for environmental management. The provincial governments play a particularly important role, as they are responsible for managing natural resources and have authority over most community issues. The federal government, however, is responsible for issues of national concern: poisonous substances, protecting fisheries and fishery resources, etc. The environmental assessment process applies when the following criteria are met (Canada, 2009b):

1. the proposal meets the definition of "project" under the Act;
2. the project is not excluded from having to undergo an EA;
3. the project will require an action or decision of a federal authority;
4. the specified federal action or decision "triggers" an obligation to ensure that an EA is conducted.

However, as the Agency (Canada, 2009c) mentions, a band council is not considered a federal authority under the *Indian Act*. The Act may only apply when a permit is granted by the Minister of Indian Affairs and Northern Development. It was recently amended (January 2010) and one of its new objectives is to "promote communication and cooperation between responsible authorities and Aboriginal peoples with respect to environmental assessments" (Act, b.3). Section 10 of the Act specifically mentions that "If a project is to be carried out in whole or in part on a reserve that has been set apart for the use and benefit of a band and that is subject to the *Indian Act*, the band council for whose use and benefit the reservation has been set apart shall, if regulations that apply to the band have been made under paragraph 59(l) and have come into force, ensure that an assessment of the environmental effects of the project is conducted in accordance with those regulations." As such, it appears that some changes are being made to a band council's authority over its own land. Due to the recent nature of these amendments, it is too early to comment on them.

Provincially, and generally speaking, the law could apply inside a reservation through section 88 of the *Indian Act* as long as it only targets the user, i.e., the Aboriginals, and not the use of the reserve land.

On a political level, some Aboriginals believe that they are not required to respect laws and regulations. There is however a discrepancy between this position and the practice.

Since the amendment was made to the Act in 2003 in accordance with section C-9, a number of changes have been made. The need to incorporate Aboriginal knowledge has become a priority since publishing interim principles in February 2004 on the integration of Aboriginal knowledge in environmental assessments under the Act (Canada, 2009d). These include:

1. Working with the community;
2. Seeking prior informed consent;
3. Accessing Aboriginal traditional knowledge with the support of the community;
4. Respecting intellectual property rights;
5. Collecting Aboriginal traditional knowledge in collaboration with the community;
6. Bringing Aboriginal traditional knowledge and western knowledge together.

These principles are intended to help environmental assessment practitioners carry out their work throughout the entire process. They recognize that each situation is unique unto itself and that Aboriginal knowledge varies from one nation to another. However, these principles have yet to be made “official.” Aboriginal knowledge is only taken into consideration on a case per case basis at the discretion of the review panel (Paci et al., 2002; MacGregor, 2008).

To date, the only agreement through which Aboriginals participate in the federal environmental assessment process dates back to 2000 and was signed with Inuvialuit-based institutions as a result of Inuit land claims. Despite this, they have yet to become involved on a federal level; in 2009, the Inuit Nation criticized the Government of Canada for having begun to revise the Act without seeking their input or informing them of the ongoing process (ITK, 2009).

2.1.2 Significant Aboriginal involvement

Significant Aboriginal involvement is important, no matter the way by which the Act is applied. Therefore, this report proposes an adaptive approach aiming at promoting collaboration and “co-elaboration” of environmental assessment for all stakeholders, whether it is a comprehensive study (for example, by being involved in the decision of naming a review panel or not), a mediation (for example, by participating to the

nomination of a mediator), a screening (by including an Aboriginal perspective of impacts) and a Review panel (by sitting on a panel).

“The involvement of the public, including Aboriginal peoples, is viewed as a practical and essential component of environmental assessment (EA). To help ensure the EA is informed by community and traditional knowledge, and identifies and facilitates timely responses to public concerns, meaningful public involvement should be initiated at the start of the EA process. Finding effective ways to engage the public and address their concerns while ensuring a timely and predictable process is a concern for all EA practitioners. The guiding principle in this research area is to develop means for enhancing EA process transparency and clarity through public involvement.” (Canada, 2009c).

Ideally, the process should not wait for the participation phase. This phase currently takes place at the end of the process, but it is at that point that the environmental assessment is informed by community and traditional knowledge. The involvement phase is important for this very reason, much like an impact analysis that takes community and traditional knowledge into consideration. This is a valid concern for all types of impacts, not only those of a social, cultural, economic or health-related nature.

As noted in the report “*Meaningful involvement of Aboriginal peoples in environmental assessment*” (Center for Indigenous Environmental Resources, 2009), Aboriginals are faced with a great number of challenges when it comes to their meaningful involvement in the environmental assessment process. The report also notes that even within the *Canadian Environmental Assessment Act*, certain objectives are difficult to reconcile with those of the Aboriginals.

Involvement in the decision-making process and the ability to make their voices heard are among the most widely debated barriers impeding truly meaningful participation. This is due to the fact that the decision-making power remains in the hands of a single federal jurisdiction. Aboriginals demand to be considered on a nation-to-nation basis and not as any other stakeholder. In the current procedure, social impacts are not considered on the same level as those of a biophysical nature. Social issues are, however, very much present in the Aboriginal community. The Assembly of First Nations addresses this issue in an information sheet published on its website (Assembly of First Nations, 2009).

Since the late 1970s and following the signing of the James Bay Agreements, certain tools have slowly been developed by the Aboriginals in order to share their views throughout various steps of the environmental assessment process. These tools

include strategic planning, which allows their knowledge to be incorporated into the process. Throughout the last few years, government authorities have also begun to question practices and provisions in order to review certain mechanisms, which have led to better collaboration with Aboriginals.

2.2 Definition of objectives

2.2.1 General objectives

This report's general objectives seek to:

- improve natural resource management through an adaptive management or co-management process that integrates strategic environmental assessment into land-use planning
- Promote Aboriginal involvement in the decision-making process on land management, while building on their abilities to increase their political and economic independence

2.2.2 Specific objectives

This report's specific objectives seek to:

- Make recommendations to create a (strategic or operational) environmental assessment procedure by developing and promoting current institutional diversity at every level
- Identify factors that can help to provide more flexibility for land management institutions, which is necessary to develop adaptive co-management frameworks
- Identify changes to be made to provincial and federal environmental assessment procedures and suggest linking points to facilitate a procedure that is culturally adapted to Aboriginals in general and to the Atikamekw Nation, specifically

2.3 Defining key concepts

2.3.1 Aboriginal knowledge

The Canadian Environmental Assessment Agency determines its course of action on Aboriginal knowledge in accordance with the following section of the Act (Act, Section 16.1):

“Community knowledge and **Aboriginal traditional knowledge** may be considered in conducting an environmental assessment.”

Despite the great number of advantages in providing equal consideration to these types of knowledge and scientific knowledge, we find stakeholders benefit from a great deal of flexibility.

According to the Agency, Aboriginal traditional knowledge (ATK) is described as “knowledge that is held by, and unique to, Aboriginal peoples” (Canada, 2009d).

The various definitions that exist are not necessary representative of those used by the Aboriginal communities themselves (Wiles et al., 1999; Ellis, 2005). The *Deh Cho* Nation (2004) defines ATK as:

“The collective intellectual property of Dehcho First Nations' members to Stories, Customs, Experiences, Knowledge, Practices, Beliefs and Spiritual Teaching passed on by our parents from our ancestors. This Knowledge will continue to exist and be passed on to our children and future generation. The rights to this knowledge must be protected.”

The *Gwich'in* Nation (2004) developed a policy paper on traditional knowledge, which it defines as a:

“is that body of knowledge, values, beliefs and practices passed on from one generation to another by oral means or through learned experience, observation and spiritual teachings, and pertains to the identity, culture and heritage of the Gwich'in. This body of knowledge reflects many millennia of living on the land. It is a system of classification, a set of empirical observations about the local environment and a system of self-management that governs the use of resources and defines the relationship of living beings with one another and with their environment.”

The two Aboriginal nations and the Agency do not propose the same definitions. The latter does not take all factors relating to Aboriginal traditional knowledge into account. These definitions are also criticized for being centred on the Cartesian paradigm of science rather than accurately representing the meaning provided by Aboriginal communities. The term also implies a certain level of consistency in knowledge between nations and Aboriginal cultures, which does not exist. Aboriginal knowledge is constantly evolving to incorporate new information and address new environmental challenges (MacGregor, 2008).

As Houde (2007) explains, the expression “traditional knowledge” is also criticized by certain authors, including Stevenson (1996). This seems to impede the empowerment movement by referencing to a distant past, while simultaneously disregarding the current situation and the continuous evolution referred to by Macgregor (2008). Houde (2007) mentions, however, that certain Nations have adopted the word “traditional” in order to emphasize the fact that this knowledge stems from the past and is forged in time immemorial. In negotiations, it occasionally represents a certain power by differentiating itself from state resource management supported by scientific knowledge.

Houde (2007) therefore suggests a more “all-encompassing” definition of Aboriginal traditional knowledge, comprised of 6 elements: factual observations, management systems, current and past uses, values and ethics, culture and identity and cosmology.

For the purposes of this report, we will use the more generic term “Aboriginal knowledge,” as suggested by Stevenson (1996). In so doing, we refer to a more inclusive definition that does not limit itself to “specific knowledge,” but rather includes values, experiences, wisdom, knowledge and stories.

2.3.2 Strategic environmental assessment (SEA)

This is a proactive process to determine the effects that policies, plans and programs will have, including environmental and social implications, on land health, lifestyle and culture. The SEA must be incorporated into the land-use planning process. It helps synchronize an organization’s decisions and to agree on a vision, as well as management principles and values that will guide the development of collective priorities. This process helps integrate environmental, social, cultural and economic issues on various levels.

From all the definitions found in the literature, the one suggested by Brown and Thérivel (2000) seemed important to include here:

“...a process directed at providing the proponent (during policy formulation) and the decision-maker (at the point of policy approval) with a holistic understanding of the environmental and social implications of the policy proposal, expanding the focus well beyond the issues that were the original driving force for new policy” (Brown and Thérivel, 2000).

Additionally, Waaub (2008) suggests that the most important characteristics of these definitions to remember can be summarized as follows:

Strategic environmental assessment is a proactive and systematic process that helps gain an overall understanding of the consequences of policies, plans and programs for a given territory. It also helps to direct decisions and agree on a single vision, as well as principles and values that guide the development of collective priorities. It is a process that integrates environmental, social, cultural and economic issues at different levels in order to predict and assess their importance. The SEA precedes planning and involves reviewing possible alternatives. Implementing a strategic environment assessment helps save time and money spent on individual project evaluations. In order to operate as intended, it must give way to a written report and play a systematic role in the decision-making process when dealing with land-use planning and environmental issues (as per the inclusive definition, which takes social factors into consideration). It also requires that authorities involved be accountable.

Implementing strategic environmental assessment helps reduce delays and money spent on individually assessing projects. As one of the first steps involved in the process, operational decisions have a direct influence on land-use planning, the environment and the selection future projects. As such, projects are structured as per the Nation's objectives and its overall vision of the land. This assessment does not, however, enable us to eliminate impact studies on projects and follow-ups.

2.3.3 The various Aboriginal "statuses"

It is not appropriate to use the term "First Nations" for all aboriginal groups, due to their heterogeneous nature. For example, the Inuit do not consider themselves to be First Nations, nor do some other groups, due to the history of their relationship with North American settlers. It is important to note that the federal government was responsible for deciding that the Inuit were not "First Nations" by distinguishing "Aboriginals" and "Inuit" in the *Indian Act*. "Aboriginals" therefore become First Nations. Beyond these terminological differences, we must consider the fact that not all Aboriginal nations have signed a government treaty or agreement. As such, they are not required to adhere to federal or provincial processes. In their eyes, this thereby exempts them from the requirement to obey provincial or federal laws.

The Aboriginal communities currently in negotiations with government authorities have a number of issues to address. Furthermore, these processes are forced upon them until an agreement is signed (Christensen et al., 2006; Galbraith et al., 2007). It is more important for the Aboriginals to guarantee their land rights than to take part in the environmental assessment process, even if they are directly involved (Paci et al., 2002). In fact, the Assembly of First Nations mentioned that Aboriginal groups are not included and/or taken into consideration until they have signed an agreement. Without this, it is officially impossible for them to participate, despite the Haida and Taku River decisions proving that Aboriginals need not sign a treaty to participate in land-use planning (Baker et al., 2003; Assembly of First Nations, 2009; Campbell and Treacy,

2005). A certain level of disparity persists between groups that have signed agreements/treaties and those that have not. Those with agreements have a better understanding of the control they have over their future and independence (Christensen et al., 2006). Meanwhile, as required by the duty to consult and accommodate Aboriginal peoples, the groups still in negotiations must be consulted. This duty has paved the road to Aboriginal involvement in the decision-making process, even in the absence of proof of Aboriginal rights or when covered by a treaty. As such, even without a treaty, an official internal organization for land-use planning must be formed.

One of the objectives of these treaties is, therefore, to implement a governance system by which decision-making is controlled through local and recognized Aboriginal governments. In principle, the environmental impact assessments (EIAs) for such owned lands could be carried out by these governments, subject to certain minimum standards. In other cases, the treaties could include their official participation in the decision-making process. Signing agreements represents another way to ensure that Aboriginal knowledge is factored into the environment assessment process for projects carried out on ancestral homeland (Paci et al., 2002). These treaties provide clear frameworks to easily delegate decision-making powers for natural resource management to local groups (Christensen et al., 2006) without legal decisions having necessarily established a link between them. Again, the Haida and Taku River decisions (2004) are a perfect example of this.

2.3.4 Co-management

Co-management is often defined as a formal agreement or arrangement made between governments and one or more community group, which often involves creating an institutional jurisdiction or provision (Goetz, 2004; Jentoft 1985). Nowadays, various agreements have been established in order to co-manage natural resources; however, stakeholders rarely share the same degree of power. Certain co-management agreements include unequal partnerships, which can deteriorate into community-based management with some level of government involvement (Ross et al., 2004).

Rather than considering co-management as an arrangement within a top-down process, it should be thought of as a bottom-up, self-organized process. This idea contradicts the one in effect since the end of the 1980s, which refers to a fairly strict institutional provision. According to the agreement, the provision falls within the following continuum:

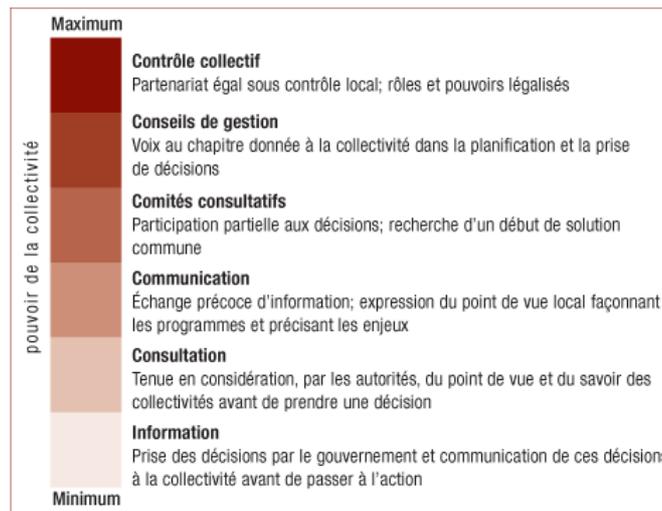


Figure 2.1 Co-management (Tyler, 2006)

In co-management, Aboriginal communities do not play the same role as other communities. “They are a distinct people who do not possess specific equities or background rights (the courts use the Latin expression ‘*sui generis*’) to the land and resources. These rights have continued to evolve over time and, as such, we must address all issues regarding land development, specifically the use of resources” (AFNQL, 2008). Stevenson (2003) emphasizes certain benefits of including Aboriginal communities in equally-balanced relationships. Beyond helping governments fulfil their national and international commitments in Aboriginal and environmental rights, it improves the cultural, social, spiritual and nutritional well-being of these communities, which also helps maintain biodiversity.

Co-management helps Aboriginal communities efficiently increase the control they have. It also allows the community to gain management experience and develop a certain expertise in this field without time constraints. Building the necessary skills and mutual trust within the community plays a critical role in successfully implementing co-management and having it accepted by everyone.

2.3.5 Adaptive co-management

Adaptive co-management is a process by which institutional arrangements and power and responsibility sharing is tested and reviewed. We rely on activity learning in order to deal with unforeseen circumstances, in accordance with the principle of adaptive co-management, which states that “Adaptive management, or learning by doing, was originally determined as one way to manage uncertainty and complexity instead of setting rules of management” (Holling, 1978)

Co-management and adaptive management have both evolved toward a common ground: adaptive co-management. “Generating knowledge and learning has become one of the central issues in adaptive co-management” (Olsson et al. 2004; Armitage et al., 2007; Berkes, 2009).

The adaptive co-management process is systematic and repetitive, as the figure below illustrates.

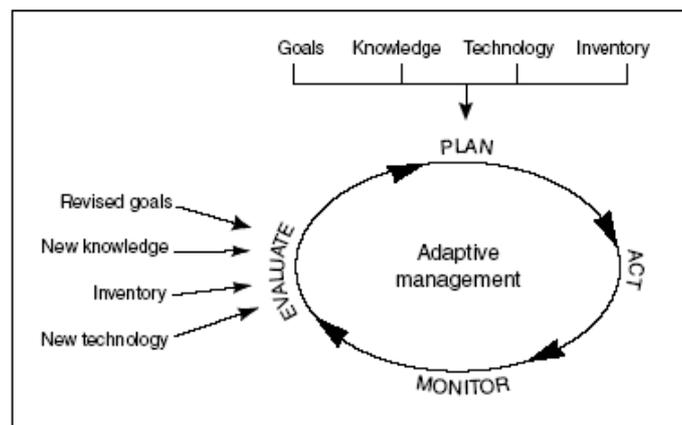


Figure 2.2 Adaptive co-management (Stankey et al., 2005)

The Agency defines adaptive management as follows:

“Adaptive management is a planned and systematic process for continuously improving environmental management practices by learning about their outcomes. Adaptive management provides flexibility to identify and implement new mitigation measures or to modify existing ones during the life of a project” (Canada, 2009f, p.2).

This definition represents part of an operational policy contained in the *Canadian Environmental Assessment Act*, which refers to adaptive management (Section 38). Undertaken in March 2009, these steps lead us to believe that the Agency has adopted a new direction with regards to “best practices.” While intended for responsible authorities, these practices may be used by anybody. This document also suggests that adaptive management planning must begin at the earliest possible moment during the environmental assessment process.

For the agency, “Clear consideration of appropriate mitigation measures and the potential need for adaptive management is important prior to the responsible authority making its section 20 or 37 decision on the course of action” (Canada, 2009f, p.2).

It (Canada, 2009f) also mentions that adaptive management is not appropriate in the following situations:

- Mitigation is not identified
- Uncertainty about significant adverse environmental effects
- Likelihood of significant adverse environmental effects
- Likely lack of follow-up results

The Agency also addresses Aboriginals and their knowledge within the context of adaptive management:

“Aboriginal traditional knowledge, local community knowledge, and public participation are potentially important considerations that may influence the planning, design and implementation of adaptive management. It is important to understand communities' interests in the project and the potential role that they might wish to play in designing and implementing adaptive management strategies and follow-up programs.” (Canada, 2009e, p.7)

This statement leaves a fairly mixed impression on the need to use Aboriginal knowledge, which is described here more as complementary rather than a crucial source of information. It also speaks to the challenges involved in effectively contributing to the process. We must not only recognize this knowledge within the context of public involvement, as there are many social studies methods that could help develop a better understanding of it and incorporate it into other phases of the process, especially when identifying and assessing impacts.

2.4 Brief portrait of the Atikamekw Nation

The elements described below stem from a final report (GEIGER, 2005) written after the Atikamekw Nation carried out a land-use strategic environmental assessment pilot project. This Nation is made up of three different communities (Wemotaci, Manawan, Obedjiwan) located in the heart of Quebec.



Figure 2.3 Aboriginal Nations in Quebec (APNQL Web site, 2009)

According to the Quebec *Secrétariat aux affaires autochtones* (Quebec, 2009), this Nation's population totals 6,300 people (May 2009).

Primarily composed of youth, the Atikamekw Nation's population has grown significantly (+16.5%). Passing on Atikamekw knowledge and practices is crucial for Nation members to conserve their identity. Members of the older generation also play a very important role in this regard, as they are the holders and keepers of this knowledge.

Despite progressively integrating certain modern-day practices into the Atikamekw lifestyle, their culture differs greatly from western culture. Their ancestral homeland is divided by family, with each territory being “managed” by the head of the family. These family lands are similar to land units in that each individual family carries out and manages its own activities.

The Atikamekw people’s idea of land is unique: land refers not only to the physical territory itself (earth and water), but also to the living beings on it (fauna and flora) and their natural life cycles, including man and his activities.

Their history and traditions have made it challenging to pinpoint their land’s toponymy. Each area has its own toponym; it is not only a name, but also the history that accompanies it.

3. RELEVANCE OF THE ISSUE

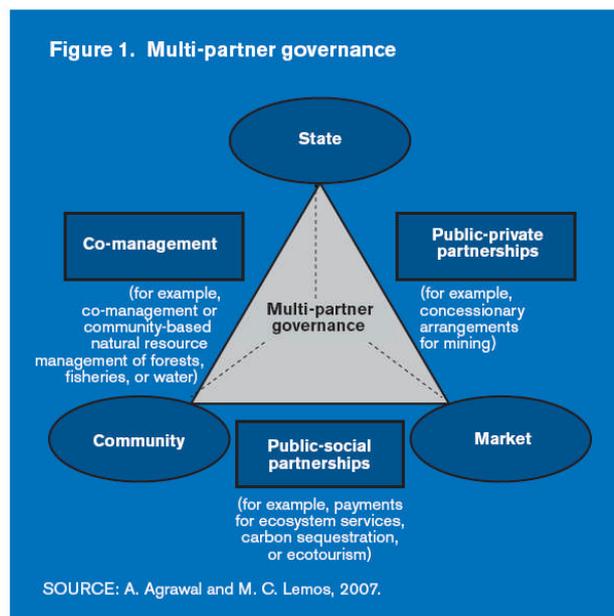


Figure 2.4 Multi-partner governance (Agrawal and Lemos, p.38)

Figure 2.4 demonstrates the various types of emerging arrangements in natural resource management, and explains the various types of circumstances found within the case studies and changes in environmental governance. As mentioned by Agrawal and Lemos (2007, p.39) “no single agent possesses the necessary capabilities to

address the multiple facets, scales and inter-dependencies of environmental problems that may appear at first blush to be quite simple.”

Agrawal and Lemos (2007) also mention that with time and globalization, we should expect growing pressure on resources, which will slowly marginalize state agencies. Once they are no longer able to fulfill their mandate, new stakeholders should replace them. Some of their important roles will, however, remain. In a general sense, these roles include:

- Establishing market operational rules
- Guiding political processes through which tradable goods and securities are quoted
- Implementing re-distributive policies that help counter the adverse effects of market environments driven solely by efficiency

These roles are often best fulfilled by transparent decision-makers and through processes involving follow-up conducted by individuals affected by the decisions themselves (Agrawal and Lemos, 2007).

The tendency would then be to increase “community” involvement in decision-making and environmental management. As Pahl-Wostl and Hare (2004) and Berkes (2009) point out, natural resource management involves more than coming up with the best solution to a problem, it is a continuous process of learning and negotiation. We should, therefore, focus on issues pertaining to communication, opinion sharing, adaptive group strategy development and problem solving. Natural resource management remains a social process influenced by various political, cultural and economic factors.

Even on a community level, taking certain interests into consideration often means leaving others out (Natcher and Hickey, 2002). In fact, we must go beyond favouring a homogenous society claiming mutual interests (Agrawal and Gibson, 1999). Instead, these stakeholders suggest adhering to a community vision where groups of individuals with varying interests interact and institutions influence the effects of political processes.

Aboriginal peoples’ claims help illustrate their desire to be recognized as a Nation, so that they can participate as one. It would therefore be better for Figure 2.4 to use the word “community” rather than “nation”, which would imply a significantly increased level of participation in natural resource management. Faced with a number of particularly important and influential issues, these Nations seek to participate in state spheres through sharing decision-making powers. Redefining powers concerning the development of land policies also allows these Nations to play a significantly larger role than the one anticipated in “community” spheres. As such, these Nations move closer to “state” spheres.

With the adoption of the *Indian Act*, a universal elections-based governance structure was imposed and implemented. This includes the designation of one spokesperson per nation, a Grand Chief and a band council lead by one Chief per community. A law has yet to officially establish these elements (roles, powers, method of election) with regards to tribal councils whose sources and basis stem from tradition. In some cases, superimposing structures can cause conflicts, as the individual roles and responsibilities of each jurisdiction and entity are not clearly defined.

Additionally, this report considers strategic environmental assessment in terms of land. As such, we believe the “Nation” to be the most appropriate way of measuring this procedure.

Several ministries and federal agencies are currently reviewing ways in which they can better address Aboriginal concerns. Lacombe (2000) put forth a series of comments for the Canadian Environmental Assessment Agency, which still hold true nearly ten years later. He alluded to a certain slowness in changing mentalities and practices:

“Many Aboriginal peoples across Canada depend upon a healthy environment for their social, cultural and economic survival. Therefore, Aboriginal peoples have a direct and immediate interest in the EA process and outcomes. Moreover, many of the larger natural resources development proposals, which are subject to federal EA, are situated in Aboriginal peoples' traditional territories where their constitutionally protected Treaty and Aboriginal rights are enjoyed and practised. In this regard, Aboriginal peoples have legal, as well as social, cultural and economic interests, in how the determination of significance of environmental effects is approached. Many submissions have been made by Aboriginal peoples in the context of Comprehensive Study Reports, Panel Reviews and in the Five Year Review of the *Canadian Environmental Assessment Act* (the Act). It is evident from these submissions that Aboriginal peoples consider the current process of determining significance to be inadequate” (Lacombe, 2000).

The majority of projects carried out in this field to date have been made possible through incorporating integrated goals and objectives into existing systems:

“The question of how to address Aboriginal and treaty rights in forest management has emerged as one of the key issues facing governments today. Although the federal government has the responsibility to protect Aboriginal rights, it is the provincial governments that are responsible for managing Crown land and natural

resources. Even though Aboriginal and treaty rights are constitutionally protected under the Canadian Constitution Act, the exact nature of these rights continues to be a subject of debate between the federal, provincial and Aboriginal governments. This debate is typically played out in the Supreme Court of Canada and various lower courts, with recent decisions demonstrating that governments have a legal obligation to consult and accommodate Aboriginal groups potentially affected by industrial activities (Supreme Court of Canada 2004) (...) Provincial governments have responded to these obligations by introducing a variety of initiatives. Several authors have criticized these initiatives as being short-sighted and paternalistic in nature... “ (Authors’ translation) (Clogg, 2004; Ross and Smith, 2002) in Nelson, 2008: p. 23)

This project represents part of the movement aimed at involving Aboriginals by developing true collaborative measures between the different parties involved. This would therefore result in a number of important outcomes, specifically for the Atikamekw Nation, as well as for the federal and provincial governments and the scientific community. The knowledge gained will contribute to the Aboriginals’ efficient involvement in decision-making, in conserving their values, encouraging community development and putting forth a contextually-adapted governance system. Finally, it will help structure land management in such a way as to accurately meet the Nation’s objectives.

The project will also contribute in various other ways, including improving strategic environmental assessment in an adaptive management context by:

- Developing flexible organizations, integrating planning and assessments, enabling the co-management framework to evolve throughout experienced gained in learning activities and improving mutual trust between co-management partners
- Obtaining a balance between Aboriginal and scientific knowledge in environmental assessment procedures
- Enabling Aboriginal people to participate in decision-making in a meaningful way

4. METHODOLOGY

4.1 Research Postulates

The following elements describe the current environment and justify the changes to be made to the planning and environment assessment procedures:

- Globalizing markets
- Growing pressures on natural resources
- National and international recognition of Aboriginal rights
- Aboriginal self-determination
- Population growth
- Direct relationship between the earth and their lifestyle, which is linked to the environment
- A large portion of their population is in Northern Canada, which is both a strategic issue and an area rich in resources

All of this makes the Aboriginal people an undeniable partner in this field.

Using several sources of knowledge is quite beneficial to maintaining biodiversity (Convention on Biological Diversity, 1992). Resource management systems can greatly benefit from the combination of various types of knowledge (Olsson and Folke, 2001). Furthermore, adaptive co-management helps align Aboriginal and institutional visions with regards to natural resource management. This provides the opportunity to experience different institutional arrangements in order to define situationally-adapted governance (Kooiman et al., 2005). The learning processes that emerge from these experiments are at varying levels. Knowledge gained through practising, for example, requires interaction. This helps to create a better level of mutual understanding between stakeholders, which aids in implementing a positive dynamic for adaption and negotiations (Jentoft 2007).

4.2 Data collection

There are primarily two different types of data collected: bibliographical references and field work on case studies.

Below, we describe the nature of the bibliographical material used and the case study screening process.

Our research partnership with the Atikamekw Nation enabled us to delve into certain Canadian Aboriginal nations' tangible experience regarding the adaptive management and co-management of natural resources, as they have already adopted environmental assessment practices that provide great learning potential. The Atikamekw Nation will, in fact, be one of the first groups to benefit from these case analyses.

4.2.1 Literature analyzed

In order to maximize the learning potential of adaptive co-management in environmental assessment, we began by reviewing literature on the subject. The

literature analyzed includes scientific articles, comprehensive works, government reports, as well as research reports from organizations specializing in Aboriginal issues and research networks, such as the Sustainable Forest Management Network, universities and Aboriginal organizations. We further expanded our research to include adaptive management initiatives recently undertaken by Aboriginal people. The results from this analysis are found in section 5.

The literature review also included the analysis of environmental assessment tools that help to maintain balance between different sources of knowledge. A summary of the strengths, weaknesses, opportunities and threats of these tools is found in section 5.2

We also analyzed several national and international cases (Landry and Waaub, 2008) related to this field according to the following themes:

- General case and land description
- The process and steps involved
- Stakeholders and structures
- Legal framework
- Stakeholders' role, governance and decision-making
- Environmental assessment tools

A few lessons were gained from these case analyses and are summarized in section 6 of this report.

4.2.2 Selection process for the case studies in the field

Through field work conducted within Canadian Aboriginal communities, we were able to further develop our research. We visited three locations in order to speak with stakeholders involved in adaptive management and co-management.

These locations were selected after reviewing literature on national and international case studies (Landry and Waaub, 2008).

The case studies on adaptive management and co-management involving Aboriginals helped us identify certain issues encountered during these experiments.

We met with the stakeholders from three of these cases in the field. Due to financial and time restraints imposed by the organization responsible for this field mission, which was supposed to take place over a three week period (July to August 2009), it was impossible to visit more than three case areas.

The following criteria were used to select the case studies:

1. Canadian Aboriginals
2. Experience certain land pressures or natural resource-related problems, which limit or threaten the land or lifestyle
3. Operate within an adaptive management or co-management process
4. Have an environmental assessment framework and/or tools
5. Be accessible by air or land

The three (3) locations were also selected based on a need to represent various institutional agreements and provisions on environmental assessment. We were also attracted to these specific case studies for their consultative, decision-making and participatory processes.

The three (3) case studies selected (Figure 4.1) are located in Inuvialuit, in the Whitefeather forest in Northern Ontario and in the Yukon.

It is important to note that the field work was developed in partnership the Atikamekw Nation who assigned Annie Neashish, one of their lawyers, to help in the field mission on behalf of the Atikamekw Nation Council. To the best of our ability, contact was made between the Grand Chiefs through Eva Ottawa and her assistant, Richard Boivin, with the support of Véronique Landry, GEIGER. The Nation-to-Nation contact established and the support of Annie Neashish certainly helped gain special contacts within the Nations and communities visited.

Section 4.3 addresses certain characteristics that encouraged us to focus on these three areas.



Figure 4.1 Location of the field case studies

-  Pikangikum Nation, located in the *Whitefeather* forest
-  Ta'an kwäch'än Nation, whose territory is located close to Whitehorse
-  Inuvialuit

4.3 Description of the case studies

4.3.1 Inuvialuit

In Inuvialuit, the agreement signed in 1984 between the Inuvialuit Nation and the federal government is the result of the Federal Comprehensive Claims Policy

(Inuvialuit, 1984). Created in respect of Inuvialuit objectives and recognized in Canada, three principles form the basis of this agreement:

- Protecting developing northern Nations' cultural identity and values
- Enabling the Inuvialuit to wholly participate in society and the economy
- Conserving the Arctic fauna, environment and biological productivity

As far as comprehensive land claims are concerned, co-management institutions represent official power structures. Government agencies are required to consult with these institutions on any bill or regulations regarding their land or resources. It represents a very real power (Rodon, 2003).

4.3.2 Pikangikum Nation

The Pikangikum Nation, located in the Whitefeather Forest in Northern Ontario, is a case study that helped us examine one Aboriginal approach to the adaptive management of Canadian forests. A large number of stakeholders with academic, industrial or political backgrounds have become involved with this Nation. Our research sought to assess the role that their stewardship methods played in the planning of land-use and forest management in Ontario. All decisions made during the planning process (including the research phase) were led by the Pikangikum Nation. As such, participatory processes were created to carry out the planning of land-use, which helped in the development of a working framework for land and resource management. The Pikangikum Nation maintained its traditional governance structure throughout the process. In 2007, this Nation suggested using an impact assessment for the Whitefeather Forest land, which was approved by the Ontario Provincial Government in 2009.

4.3.3 Ta'an Kwach'an Nation

The Yukon First Nations Council is an organization comprised of 14 different Nations, 11 of which are self-governed. This particular status includes certain advantages and disadvantages for the First Nations people, but they do have decision-making authority over their owned land. During our field mission, we spoke with various stakeholders and members of the Ta'an Kwach'an Nation.

The *Canadian Environmental Assessment Act* is no longer in effect in the Yukon, as the *Yukon Environmental and Socioeconomic Assessment Act* now takes precedence. This new Act and its related procedures were developed by the federal government, the Government of Yukon and the First Nations Council. The Yukon Environmental and Socioeconomic Assessment Board is an independent entity responsible for environment assessments and making recommendations to decision-makers, who are

selected according to the project site location. As such, the decision-making authority changes depending on whether it is Crown or owned land. In the latter case, the Nation retains decision-making powers. They also own 6% to 7% of the total Yukon land mass.

4.4 Data collected in the field: three dimension studies

In the field, data was essentially collected through partially-directed conversations (29), which took place from July 19 to August 8, 2009. A list of the participants (anonymous), who were categorized according to role (decision-maker/manager/technician) is found in Appendix 1, along with a more complete description of the locations visited. Some of those involved held more than one position at the same time. Through their roles, we were able to determine the tasks and responsibilities of each participant, which helped to individually adapt the interview questions. The original version is found in Appendix 2.

Data was also collected through informal conversations, reading relevant documents and first-hand observations during meetings and visits with these organizations.

By visiting these three locations, we were able to take advantage of their experience and the lessons they learned, which we structured according to three dimensions that covered our specific objectives (Section 2.2.2).

4.4.1 Developing a plan endogenous to an Aboriginal nation and including strategic environmental assessment procedures

As a land and natural resource management tool, strategic environmental assessment must be a part of the land-use planning process. Based on the principle of public consultation, environmental planning and assessment helps align organizational decisions and agree on a vision, management principles and values that guide the establishment of collective principles. They are part of a process that helps integrate environmental, social, cultural and economic issues on different levels.

Carrying out endogenous planning is a process that takes place within a Nation and that seeks to identify and prioritize its own developmental objectives. On an increasing basis for Aboriginals in Canada, this has become a crucial first step, which must take place before linking it with outside authorities (federal, provincial and municipal governments). In this process, they must establish a governance structure and develop a land plan. It helps transition from a reactive approach to third-party proposals to a proactive approach seeking to implement endogenous planning.

4.4.2 Developing a logic of cooperation that seeks balance between Aboriginal and scientific knowledge in environment assessment

Logic of cooperation is viewed as part of a hands-on learning process, through which knowledge is jointly created. It stems from a dynamic learning process and contingent knowledge built, validated and adapted to changing circumstances (Davidson-Hunt and O' Flaherty, 2007).

The stakeholders must work together to combine their knowledge so that everybody can understand it. Linking these two different types of knowledge is, however, no easy task (Berkes, 2009). On the one hand, scientists and government agency representatives do not trust Aboriginal knowledge (doubting its sustainability and even its existence). On the other hand, Aboriginals are fully equipped to question the efficiency of a management process based solely on scientific knowledge. As such, many doubt that these two types of knowledge can ever be linked. Some believe that their respective values are simply contradictory in nature (Berkes, 2009; McGregor, 2008, 2009). As long as the current state-dominated environment remains unaltered, others have a hard time seeing a true logic of cooperation. We therefore believe that this type of logic, which essentially has yet to be established, involves both issues related to Aboriginally-adapted processes and procedures and cognitive issues, such as those related to the very basis of this knowledge.

4.4.3 Linkages between environmental assessment procedures and Aboriginal processes

Here are the basic questions to be answered:

- What possible linkages can there be between Aboriginal and government processes in environment assessment?
- How can we ensure that the interfaces created allow for meaningful Aboriginal participation?
- How can we help Canadian Aboriginals achieve their goals while “[providing] Canadians with high-quality environmental assessments that contribute to informed decision-making in support of sustainable development” (Act)?

Considering that environmental assessment procedures form part of the land and resource management process, as well as serve as a checking tool for this purpose, is it better to:

- Combine Aboriginal and government visions through collaborative efforts made during the entire environmental assessment process?

- Consult on specific issues and/or steps in the process in order to pre-emptively identify common grounds for negotiation and decision-related problems?
- Promote the creation of specific environmental assessment framework and/or tools?

Should this be done on a comprehensive scale, involving:

- Aboriginal claims seeking to gain control of their land and their own socioeconomic development
- Growing pressures on natural resources and land-use, especially in the North
- Seeking appropriate solutions for Canadian environmental assessment requirements

4.4.4 Ethical considerations

The partially-led interviews involve taking ethical considerations into account, such as those involving information, consent, confidentiality and interpreting results.

These interviews were conducted when meeting with participants in a location of their choice within their community. Participants were fully aware of the research objectives, the confidentiality concerning their answers and their right to refuse to answer one or more questions. The interviews were carried out either in English or the language of use within the community. In the latter case, we required the services of an interpreter. Interview notes were documented in a conversation workbook, which contained basic information to provide participants with a context. A copy of the final report written in English will be provided to the communities and made available to participants. Ideally, we would have liked to provide a copy of the executive summary to all of the communities involved in their own language, but this was not possible due to financial restrictions.

4.5 **Data analysis**

4.5.1 Content analysis

We conducted a qualitative data analysis, which, according to Paillé and Mucchielli (2005, p.5), “can be described as a discursive approach to restating, explaining and theorizing testimony, experience or phenomenon.”

The objective is to make sense of it all. According to Paillé and Mucchielli (2005, to derive meaning from a phenomenon or conceptualize an object is to give it significance. By using language to identify elements, qualitative analysis comes to fruition. As such, in the hopes of representing, researchers make the phenomena

easier to understand. It is what we call verbalizing empirical phenomena often lived and/or recounted by stakeholders within a given context.

Content analysis was the method of qualitative analysis that we chose to use, because it:

- Overcomes unexpected circumstances: is what I perceive the message to be pertinent and can this personal perception be shared by others? (Bardin, 1991, p.32)
- Enriches reading. If immediately and spontaneously reviewing content proves valuable, then thoroughly reading it can further increase productivity and relevance. This occurs by discovering content and structures that confirm or disprove what we are seeking to demonstrate with regard to messages, or through updating meaningful elements that could help us better describe mechanisms that we previously misunderstood (Bardin, 1991, p.32).

The goal here is to satisfy our desire to be objective, thorough and knowledge-driven with regards to various types of communication. In our case, we primarily looked at bibliographical references and partially directed conversations, but also informal meetings and various other firsthand observations.

According to Bardin (1991, p.47), content analysis is described as:

“[...] a group of communication analysis techniques that, by means of systematic and objective message content description procedures, seek to gather indicators (qualitative or otherwise) that make it possible to infer knowledge pertaining to the production and/or reception (inferred variables) of these messages.

While the techniques used must constantly be adapted to each field of study, their objectives remains to overcome the boundaries of spontaneous understanding. By categorizing and breaking them down into themes, it is possible to arrive at or update a more precise, secondary meaning.

We structured our analysis according to three dimensions in order to achieve the objectives set out in section 2.2 and presented in section 4.4.

4.5.2 Strengths-Weaknesses-Opportunities-Threats Analysis

The Strengths-Weaknesses-Opportunities-Threats model, commonly known as SWOT, is a type of strategic analysis usually used to assess “whether an organization already has the strategic ability to address its environment’s evolution” (Johnson et al., 2008). It

is therefore a question of weighing an organization's main strengths and weaknesses against its environment's opportunities and threats.

We therefore adapted this model to structure our literary analysis on the issue of balancing Aboriginal and scientific knowledge, and to produce a diagnosis that would help us make appropriate recommendations.

5. RESULTS: LESSONS FROM THE LITERATURE

5.1 Endogenous planning

5.1.1 Recognizing rights and commitment types

Studies on this issue emphasize that legally recognizing and clarifying rights is one of the keys to success. Without legal protection, conflicts between different groups on (forestry, fishery, agricultural, wildlife or other) resources are inevitable (Ross and Smith, 2002).

Wyatt, Fortier and Hébert (2008) discuss the five (5) most common types of commitment used in Canadian forestry, which allow Aboriginals to come to an agreement that best suits their objectives:

- Treaty, agreements or memorandum of understanding (MOU, an agreement that does not carry legal implications, but involves a common intent to act)
- Cartography, planning and management
- Voice in decision-making
- Tenure (legal operations license)
- Economic partnerships

This framework highlights the various possibilities available to Nations that are taking the steps necessary to regain development control.

5.1.2 Network structures

Connections, networks, groups and the nature of relationships are therefore a very important part of the social capital required for collective action, much like relationships of trust, reciprocity in exchanges and shared standards and rules.

Networks and connections include five important (micro and macro) elements and links

(Pretty and Ward, 2001). Normally, the more networks and links there are, the more the situation lends itself to collective action. Pretty and Ward (2001) noted, however, that in certain cases, isolating groups can prove beneficial as it avoids various costly, external requests. Trust fosters cooperation and helps avoid follow-up and monitoring costs by creating a mutual social requirement to act as per each group's expectations. There are two different types of trust possible: the first stems from knowing an individual or group and the second occurs when an individual or group belongs to a recognized social structure. In both cases, trust takes time to build and is easily lost (Gambetta, 1988; Fukuyama, 1995 in Pretty and Ward, 2001). When mistrust reigns, society often has a hard time easily accepting cooperative agreements (Baland and Platteau, 1998).

5.2 Balance between Aboriginal and scientific knowledge

We analyzed different tools in order to achieve a balance between Aboriginal and scientific knowledge. Many different terms are used, which often results in varying visions. The expression “integrate Aboriginal knowledge” often leaves us with the impression that we are attempting to insert Aboriginal knowledge into a predetermined framework governed by scientific knowledge. The expression “link knowledge” alludes to the creation of a new working framework. The expression “balance between knowledge” proves that we must continually take the steps necessary to improve, which is the meaning we prefer. Knowledge is described as traditional, traditionally ecological or Aboriginal. We chose to use this last definition as much as possible, as we thought it best reflected the breadth of the knowledge in question, which is not only linked to the knowledge of ecosystems, nor merely transferred through tradition. This Aboriginal knowledge is constantly changing. It is established socially and involves all spheres (social, environmental, lifestyle, etc.). The term “traditional knowledge,” which stems from literature, is often corrected.

These tools were used within the context of partnerships or agreements between the government, Aboriginals and, in certain cases, industries. The following analysis is based on six case studies presented in a research log (Leblanc and Waaub, 2009). The conclusions presented below stem from the SWOT analysis and two previous examples of tools: cartography and associated data basis, as well as criteria and indicators.

Before presenting the results of this analysis, it is important to make two precautionary statements. First, the cases analyzed come from data and experience presented by academics in publications on their research results. The tools presented were therefore developed in collaboration with researchers and not the Aboriginals themselves. Other tools are available on the First Nations' websites, but the lack of data available made it impossible for us to use them as a source of information for analytical purposes. Finally, researchers may choose not to discuss the challenges to cooperation they encountered during publication.

5.2.1 Main elements from the analysis

The elements below are related to various tools, such as cartography, databases and criteria and indicators.

Strengths:

- Simple design of the tool; allows for a larger number of users
- Land-use planning and management tools often involve decision-makers, trappers/hunters and the elderly
- In some cases, standardizing data provided by the Aboriginal nations (similar maps, for example) allows project/program initiators to gain a better understand of important land elements for the Aboriginals
- Aboriginals appreciated the use of tools that ensured the confidentiality of privileged information
- Developing the research methodology in collaboration with community members can help provide improved communication and a better exchange of knowledge
- Criteria and indicators help ensure that projects/programs/policies are developed and assessed according to a Nation's values and concerns

Weaknesses:

- Significant financial resources to carry out a study or a project;
- Lack of expertise or training on various tools (e.g. a GPS), which limits or impedes a community's ability to use them
- Women are not often invited to participate in tool development; we assume that they do, however, still feel the impact of land use
- Developing land-use planning and management tools generally requires a considerable amount of time, whereas deadlines for implementing projects with land-use consequences are often very tight
- Scientific knowledge generally forms the basis for creating criteria and indicator framework (hierarchical classification system from western science)
- Content generally reveals Aboriginal values, but not necessary traditional knowledge. There is often a certain level of vagueness when it comes to this type of knowledge. We do not consider values to be a necessary part of scientific knowledge

Opportunities:

- When researchers develop tools, they help foster collaboration between Aboriginals and non-Aboriginals (note: in light of this study, no case mentioned negative aspects or challenges with regard to researcher-Aboriginal relations, which seems highly unlikely). We hypothesize that researchers decided not to include any challenges in their publications)

- Management and planning tools ensure better intercultural understanding, mainly concerning values and knowledge. More specifically, tools help non-Aboriginals gain a better understanding of Aboriginals; the contrary does not hold true
- Developing criteria and indicators creates a certain openness (note: the above-mentioned note also applies here)
- The bottom-up approach is widely valued by researchers, as it helps involve local communities in researching, managing and assessing projects/programs/policies (empowerment)

Threats:

- The case studies analyzed come from data/experience provided by academics who have published the results of their findings. These are, therefore, only tools developed in collaboration with researchers. Other tools are available on the First Nations' websites, but due to a lack of data, we were unable to use them as a source of information for analytical purposes
- Some tools might run the risk of breaking down traditional knowledge, which could result in a loss of meaning
- A lack of (human and financial) skills and resources within the communities has an impact on the implementation and the effective operation of these tools
- Comparing different definitions and interpretations of criteria and indicators still, to this day, remain a challenge
- It is truly challenging to integrate Aboriginal knowledge into a political system governed by institutional stakeholders (state, etc.)

5.3 Linkages between processes

5.3.1 Public participation

Public participation allows citizens to become involved in a decision-making process that affects them. For many years, institutional authorities were criticized for using public participation as a means of justifying their actions (Arnstein, 1969). In reality, their participation took on many forms. Speech has an increasing tendency to move toward participation of a “participatory democratic” or deliberate nature (Guay, 2003). In the latter case, emphasis is placed on the debate, discussion and confrontation of opinions to help achieve a consensus. As such, we require more active participation on behalf of citizens, who must be informed, involved, listen, share, express themselves, argue and justify their points of view. Through this process, we are seeking to obtain diversity among different points of view.

CITIZENSHIP POWER	Control Delegation
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	Partnership
TOKEN PARTICIPATION	Consultation Information Representation
NON-PARTICIPATION	Stimulation Manipulation

Table 5.1 Scale in citizen participation (Arnstein, 1969)

This exclusion involves the same “experts” choosing consultation methods, which are not usually able to involve Aboriginal knowledge or the public in the environmental assessment process (Ross et al., 2006).

Socio-environmental assessment is a platform that could serve to help Aboriginal populations negotiate project changes. In fact, stakeholders often expect that the environmental assessment process will act as a participatory forum to communicate with the promoter (Mulhivill et al., 2001; Paci et al., 2002; O’Faircheallaigh, 2009).

There is another obstacle that should also be avoided in public participation. As with the James Bay Cree Nation, having Aboriginal representatives in various committees and commissions does not necessary mean that the public is participating. They are still required to share information and outcomes from these committees and to implement a public participation process (Lajoie et al., 2006).

Furthermore, the Aboriginals’ participation does not necessary mean that their knowledge is being integrated; environmental governance is widely influenced by western traditions (Ellis, 2005).

“Public participation” and “participation of the public” are the two terms most commonly used. The meaning they convey puts everyone on the same playing field, i.e. that of the individual. In reality, participation simultaneously involves the public (occasionally defined by physical limits) and different public audiences, i.e. the individuals who represent organized and interest groups. Moreover, Aboriginal Nations do not have the same rights as other organized groups in society. It is the Crown’s fiduciary obligation to consult these Nations, who want to interact with the government on a Nation-to-Nation basis.

Finally, there is true value in incorporating participation into environmental assessment in more than in the consultation phase, especially when this phase takes place at the end of the process, which forces the participants to adopt a reactive approach. As

such, we recommend participation that occurs throughout the duration of the planning and assessment process.

**Box 5.1 Public participation requirements in the federal Canadian EIA process
(Morrisson-Saunders et al., 2008)**

The preamble to the *Canadian Environmental Assessment Act 1992* (CEAA) includes a commitment from the Government of Canada to:

facilitate public participation in the environmental assessment of projects to be carried out by or with the approval or assistance of the Government of Canada and provide access to the information on which those environmental assessments are based.

In addition, there are several stages of the Canadian EIA process that involve public participation and decision-making.

The Act (s55) also requires federal government institutions to maintain a public registry in respect to every project for which an EIA is conducted, and to ensure convenient public access to records relating to the EIA (Canadian International Development Agency 1998).

Operation of Review Panels

A key feature of Canadian EIA practice is the appointment of a Review Panel (CEAA: s33) for the assessment of major proposals. The Review Panel is responsible for conducting public hearings and providing advice (effectively a draft decision) to the government in the lead-up to the final approval decision. By the end of the public hearing process, the Review Panel must have gained enough information about the proposal to write its report and make its recommendations (Walsh, 1988). The Review Panel's report, which is always made public, is advisory; the final decision is made by the Minister.

Decision-making

All of the Canadian EIA practitioners contributing to our paper were emphatic that the advice or recommendations put to EIA decision-makers must be based only upon information presented previously during the public hearing process or in the proponent's EIS. "We must distinguish between the EIA process and the decision-making." The implication is that the 'EIA process' refers to the aspects discussed previously (such as Review Panel hearings), while 'decision-making' refers to the final determination by the Minister. This brings up the notion that the final approval is part of a political process and occurs *after* EIA, which correlates with the distinction we make throughout this paper between the 'assessment' and 'approval' stages of EIA. Certainly, the CEAA provides no guidance on how the final approval decision should be made, beyond requiring, in section 37(1.1), that where a report is submitted by a Review Panel, it shall be taken into consideration by the Responsible Authority.

5.3.2 Aboriginal resources

Aboriginals rarely have the financial or human resources necessary to conduct follow-up throughout the environmental assessment process. The complex nature of the process and the *Canadian Environmental Assessment Act* pose significant challenges (Kwiatkowski et al., 2009). It is also more difficult for them to access the expertise needed to “effectively” participate (Baker et al., 2003; O’Faircheallaigh, 2009). This lack of resources forces them to rely on external funding (O’Faircheallaigh, 2009).

Some Aboriginal groups have already implemented protocols and policies on using Aboriginal knowledge in the environmental assessment process, such as the Dehco Nation (*Traditional Knowledge Research Protocol*, 2004) and the Gwich’in Nation (*Gwich’in Tribal Council Traditional Knowledge Policy*, 2004).

The James Bay Cree Nation already benefit from Aboriginal funding and the ability to access information in Cree, even if only through a select number of documents (Lajoie et al., 2006).

It is important that Aboriginals be able to receive funding so that they can conduct follow-up and integrate their knowledge. This would better enable them to adapt the project and give it more credibility through their participation (Galbraith et al., 2007). Moreover, they have the inherent right to participate in project committees involving their land, which may require federal government support (Baker et al., 2003).

5.3.3 Lack of flexibility in the process

A certain lack of flexibility in the process would detract from the goal of environmental assessment. It seeks to ensure government approval or certification, rather than planning, effectively assessing and accepting the project for Aboriginal populations (Ross et al., 2006; O’Faircheallaigh, 2009).

We must remember that environmental assessment is a planning tool and not an approval process. By taking this into account, it becomes necessary to adapt the process according to the social, political and cultural reality of Aboriginals, as they are the most affected (Couch, 2002; Devlin et al., 2008; Morrisson-Saunders et al., 2008; O’Faircheallaigh, 2009).

Additionally, environmental assessment processes and mechanisms often fall short in the Aboriginal contexts. Aboriginal participation is negatively affected by a number of factors, which include only using written language (whereas their means of communication is predominately oral), using a non-Aboriginal language and the lack of interpreters. These represent true obstacles that impede Aboriginal participation (Baker et al., 2003; Ellis, 2005; O’Faircheallaigh, 2009).

The desire to find a balance between using Aboriginal knowledge in the process helps them adapt (Wiles et al., 1999). This occurred in the Canadian Northwest Territories, despite causing a great deal of controversy. On a legislative level, this procedure must be made more flexible for this to become possible (Paci et al., 2002; McGregor, 2008).

Generally speaking, both deadlines and schedules are too tight. As such, it is often impossible to submit requests on time, due to conflicts between the revision period and the cultural framework. Furthermore, these groups are often the most affected by resource exploitation projects (Mulhivill et al., 2001; Baker et al., 2003; Lawe et al., 2005; Lajoie and Bouchard, 2006; O'Faircheallaigh, 2009).

Moreover, environmental assessment tends to focus, first and foremost, on short-term impacts, whereas Aboriginals have more of a circular vision of time based on the long-term (Mulhivill et al., 2001), which seems to be better suited to a strategic vision of assessment.

5.3.4 Impact/benefit agreements

Impact/benefit agreements (IBA) can pose quite a challenge, as they are not regulated or controlled throughout the environmental assessment process, due to the fact that they are signed between the affected Aboriginal communities and the companies carrying out the project. These agreements are typically used in conjunction with environmental assessments, but are NOT part of the process, which implies that they are not subject to consultation. As such, not all stakeholders are necessarily in favour of these agreements, which indirectly affect the integrity of the public participation procedure and environmental assessment itself (Mulhivill et al., 2001). These agreements are commonly used in Canada and Australia.

They might also be perceived as an alternate method of negotiating private benefits, which negatively affect collective interests. When they are signed prior to completing an environmental assessment procedure, they may also be viewed as not having entirely taken all information into account. When they are signed outside regular procedures, it brings the legitimacy and the use of environmental assessment procedures into question.

These agreements include clauses on advantage-sharing, awarding royalties, community-reserved job quotas as well as other economic opportunities. This type of agreement helps take issues excluded from the environmental assessment into consideration. Unfortunately, this may cause internal conflicts when not all Aboriginal groups involved in a project sign an agreement, which may be viewed as a form of favouritism by the project proponent. It is as difficult to manage this type of conflict as it is to manage those that fall under legislative boundaries (Baker et al. 2003).

6. RESULTS: LESSONS FROM THE CASE STUDIES

The following case studies helped us learn about the implications of Aboriginal involvement in decision-making at different levels in strategic and environmental assessment. The studies focused on national and international cases, each one bringing something unique to the equation.

It also became apparent that concerns over Aboriginal involvement in decision-making are not unique to Canada, but are also an international phenomenon (Landry et Waaub, 2008). In fact, in 2006, the United Nations proclaimed a declaration on Aboriginal rights and implemented a permanent forum on Aboriginal issues (UN, 2007). Recognizing these rights also involves recognizing the need to involve Aboriginals in projects that affect them. The World Bank has already instituted operational policies to this effect (Emery, 2000). This guide contains a series of studies conducted throughout the world that illustrate these principles and suggest “appropriate practices”.

Some countries have a more similar approach to Aboriginal issues than others. For example, the situation for Australian Aboriginals is very similar to that in Canada. These two nations share a solid legislative base that involves these populations in environmental processes and active Aboriginal populations (O'Faircheallaigh, 2009). Furthermore, Australia and New Zealand work together to coordinate their approach to environmental assessment as much as possible, for which they have combined their efforts (ANZECC, 1991; 1996).

6.1 Australian Aboriginal involvement in the EA of a mining project

This case study describes a conflict between Aboriginals and local authorities regarding exploitation of natural resources in traditional land in Coronation Hill, in Australia. Knowledge on both sides is highly political and widely contested; decision-making itself is subject to debate. This demonstrates that (social and) environmental assessment mainly uses scientific knowledge that does not correlate with local populations' interests and concerns. We concluded that the most important outcome of assessment is the creation of a forum for democratic debate, rather than polarizing opinions on the project. In this instance, the process helps integrate and articulate Aboriginal values, beliefs and visions pertaining to impact analysis (Lane et al., 2003).

Lessons learned from this case study:

- Impact assessments can be used to articulate aboriginal knowledge and share it with decision-makers;

- Impact assessments must demonstrate the complexity of the environment to the authorities and take complexity into account in their decisions;
- Technical impact analysis must be expanded to include complex elements for which Aboriginal knowledge was developed.

6.2 Great Barrier Reef co-management in Australia

In this case study, stakeholders had to overcome a number of challenges involving this co-management structure. While Aboriginal groups prefer a holistic approach to natural resource management of the marine park, various government agencies that participate in its daily management act according to specific and operational guidelines established for each sector. Furthermore, these agencies must work in collaboration with various traditional land-owners (for the Aboriginals, each group governs its own land). Despite a certain level of stability with regard to figureheads, who are involved in Aboriginal co-management (these nations only change figureheads following their death), it is an entirely different case with government agencies where leaders change on a regular basis (Ross, 2004).

The Australian government clearly maintains control over the land. It has not agreed to sign comprehensive agreements for the entire Great Barrier Reef territory and preferred to sign localized agreements. However, Aboriginals have become involved in decision-making at various levels. Beyond playing an active role in the Co-management Committee's decisions, many Aboriginals were hired to work at various levels following this project. The Aboriginals also managed the case studies that served as adaptive co-management laboratories and which had received funding. Decentralizing power is, therefore, very present within this research, but unfortunately, the Australian government refused to delegate a part of its powers by signing a comprehensive agreement and by allowing the Aboriginals to determine their own objectives (Ross et al., 2005).

6.3 Cooperation in environmental and traditional practices in Indonesia

Aboriginal knowledge helps identify gaps in scientific knowledge with regard to some traditional resources (e.g. the tree in the *Aquilaria* genus), as well as provide direction for future investigations to improve resource harvesting practices. As a result, a large degree of "interdisciplinary" cooperation would prove beneficial in order to develop a sustainable management system for traditional natural resources. Their cooperation would help make good use of the strengths of both types of knowledge, as opposed to placing them in competition with one another (Donovan et al., 2004).

6.4 Knowledge union in Thailand

This case study (Roth, 2004) demonstrates the importance of the spatial dimension when bringing Aboriginal and scientific knowledge together. The local management of Aboriginal resource use is often very complicated and can only be adapted with the help of a strong partnership. In fact, the Aboriginals' local mechanisms are often better equipped to deal with resource-related uncertainties and challenges. It is not a question of integrating Aboriginal knowledge into a scientific framework, but rather using it as an additional tool and not a replacement. In the long term, we must establish institutions that are able to bring all types of knowledge together and develop an interactive platform to create a single, "hybridized" version of these systems. A single co-management system would help ensure that conservation and subsistence objectives are met using the same tools. This involves creating a flexible management organization whose use of resources reflects nature's complexity.

6.5 Management of the Gwaii Haanas Park in British Columbia

The Gwaii Haanas Strategic Management Plan is the result of the Nation Council's and the Government of Canada's understanding of park conservation (Archipelago Management Board, 1993). They have a mutual understanding of each others' goods and beliefs, a common cause, protection, conservation and the use of Gwaii Haanas, without prejudice and in respect of each others' sovereignty, property and rights.

One of the Gwaii Haanas' strengths is the effort they have made to diversify their economy and finance co-management projects. Not relying on grants helps to promote transparent and healthy management, free of hidden agendas.

Additionally, their decision to make it a national park prevents logging or oil drilling and ensures the environment is preserved. This enabled the Nation to readapt its land and, after numerous battles, claims and international press, save it from the logging industry.

All things considered, this is a "win-win" situation, as the Nation retains its culturally-meaningful lands and its right to use natural resources for its subsistence needs. The government maintains a certain level of control over the land. In Australia, for example, the question of land ownership is often neglected; no formal ownership agreement is signed and co-management itself remains the focus.

Power-sharing between the Nation and the government is government-based and overseen by the Canadian Constitution and the Charter of Rights. While this approach seems to be in favour of integration, the government's subordination is not a key element in this co-management structure.

6.6 Aboriginal involvement in an EA in Saskatchewan

This case study shows how Aboriginal knowledge and values are put to use in the environmental assessment of a uranium mining project in Saskatchewan (Wiles et al., 1999). There is, however, a discrepancy between the authorities' technical perception of Aboriginal knowledge and the cultural participation of the Dene people. The Dene Aboriginal knowledge extends far beyond this one project, as it addresses planning issues and social implications that this assessment cannot take into account. It seems that the proponent's technical approach does not take the Aboriginal populations' interest into consideration, which focuses more on maintaining their culture and identity. This discrepancy shows that taking Aboriginal knowledge into account requires more flexible procedures that better integrate the interaction between the Dene people and the environment.

6.7 Comparing environmental practices in Tanzania and Sweden

Management techniques used by Tanzanian Aboriginal populations are based on methods adapted to local environmental disruptions and changes (Tengo et al., 2004). These practices include their culture and the biodiversity of flora and fauna in order to improve their ability to address changes, as well as changes in diversity over time and space to reduce the impact of harmful organic epidemics (crickets, etc.) and droughts. Moreover, these ancient practices seem to have been adapted to new conditions and the local environment. They concluded that community Aboriginal knowledge could help foster the sustainable management of complex agricultural systems that protect future production levels, despite any unforeseen circumstances.

6.8 Managing fauna in Nunavut

Nunavut is a Canadian territory in which the Aboriginals are responsible for managing natural resources with the help of the federal government (Nunavut Impact Review Board, 2007). The government is, however, responsible for this board. Since 2008, the Canadian environmental assessment procedure has not applied to Nunavut or the Nunavut Impact Review Board, which is the only organization to carry out environmental assessments. The Board is made up of members from both the Aboriginal community and the federal government.

The management committee's lack of financial independence is clearly problematic. Due to the fact that it is financed by the federal government, this co-management institution is biased. Additionally, the bureaucratic nature of its operational structure prevents more traditional hunters/trappers from being nominated to positions of authority. A political accord and a land agreement were reached at the same time, but the former is not protected by the Constitution, as it was negotiated independently of land claims. The co-management system permits a certain level of independence and

priority access to resources, up to a certain level, if a quota has not been established. However, Inuit are not involved in establishing standards and are learning to scientifically manage resources through mandatory quotas and hunting seasons, etc. They must make their choices in such a way as to meet the requirements of the framework set out by the Canadian system (Rodon, 2003)

6.9 Synthesis

The above-mentioned case studies have helped us reach the following conclusions:

- Creating a discussion/negotiation forum allows all stakeholders to express and reconcile their individual priorities and, therefore, avoids future conflicts (Australia, Canada)
- Having a permanent team in place for more than a few years fosters a long-term relationship, which is critical for Aboriginals in order to equally take part in the decision-making process (Australia)
- Decentralizing powers (by means of an independent committee, such as in Nunavut) and allowing decision-making panels to operate independently prevents the political process from assimilating the environmental assessment procedure (Nunavut; Gwai Haanas)
- Aboriginal and scientific knowledge should be used within a context of interdisciplinary collaboration, as they both complement each other
- A hybrid version that incorporates these two types of knowledge and reflects the complexity and unpredictability of the environment is the best way to manage (Tanzania, Sweden, Thailand)

The Waaub and Landry report (2008) that provides examples of adaptive management in an Aboriginal context also provides additional information on these case studies.

7. RESULTS: LESSONS FROM THE FIELD SURVEYS

The following section discusses the main lessons learned from the fieldwork carried out during the summer of 2009. We met with and interviewed 20 people in total regarding our research's three central elements, which are described above (endogenous planning, balance between knowledge and its linkages).

7.1 Endogenous planning

7.1.1 Endogenous planning for the Pikangikum Nation

First of all, as the members of the Pikangikum Nation taught us, endogenous planning requires long-term procedures and involvement on behalf of all stakeholders. In order for land-use planning to avoid continuous criticism and continue to develop in spite of political changes, political procedures must be carried out separately. As such, when determining individual roles and responsibilities, it is recommended that an organization at arm's length from the government be mandated by the First Nations to ensure the continuity of land-use structuring. However, the legitimacy of such an organization's involvement depends on the quality of predetermined participatory processes. These processes form the interface with political power (see section 9.3). As such, changes in strategic policy do not affect the steps taken by the Nation to develop its land structuring.

Additionally, for Nations that have already signed government arrangements and have already begun developing a planning strategy, it is important to inform all involved parties of this and to ensure that the steps taken are not contrary to these agreements.

Incidentally, respecting the traditional governance structure seems to help develop and maintain a certain degree of coherence within a Nation. In the three locations visited, the traditional structure of land-use management is still currently employed. Some committees or practices have occasionally been altered or formalized, but they have remained true to their roots, which legitimize their decisions.

Additionally, "Seniors have influential and important roles in Aboriginal communities. As elders, Aboriginal seniors share their knowledge of traditions, culture and languages"(Statistics Canada, 2007). Their wisdom is a prized possession and collective decisions should generally be based on their advice. Through their teachings and way of passing on their knowledge, seniors play a large role in the process. This fosters both coherence and discussion, as their words and advice are widely respected, but youth also have their place. This generation is responsible for justifying their Nation's efforts regarding endogenous planning. Youth represent the future, continuity, development through culture, traditions and the hopes and dreams of their people.

The presence of leader members within the Nation, such as seen with the Pikangikum people, appears to be a determining factor; they are their Nation's privileged spokespersons who discuss the interfaces to be developed with external institutions. The entire community's involvement is called upon through various means: community meetings, consultations, canvassing and gatherings, which help to include the largest number of people as possible in the planning process.

On a number of occasions, those living in the three areas visited stressed the importance of words and the impact of the language used in documents on planning strategies, treaties and plans. We must pay close attention to this. Some words or expressions can be interpreted in many different ways and imply a variety of things. Intent helps clarify the spirit in which the process has evolved. Sometimes, original intentions change as steps are taken. Many people have stressed the importance of focusing more so on the processes in the document rather than the goals and objectives in order to be more flexible and better adapt to unexpected circumstances.

As the participants within the Pikangikum Nation stated, the Nation only speaks for itself. With both the planning strategy and the impact assessment approval process, it has its own, unique history that cannot be reproduced. Each Nation and each path is unique unto itself. Seniors strongly believe in this, especially when collaborating with the government and external researchers. As such, out of respect for other Nations, a land-use strategy or steps taken by a particular Nation do not represent a model that can be replicated for others.

7.1.2 Community planning in Inuvialuit

In Inuvialuit, endogenous planning involves community plans that define community-established land categories. It marks the way for possible developments. Inuvialuit interests are also formally represented within the co-management structure (Inuvialuit Game Council) and, to this day, proponents seem to respect these boundaries.

“And these bodies are co-management, they are half government and half Inuvialuit. And you bring the Inuvialuit Game Council that is 100% Inuvialuit. They have a role for advising the Minister and receiving advice from the WMAC (Wildlife Management Advisory Council) and the FJMC (Fisheries Joint Management Committee) so they are sort of the technical expert and they incorporated both traditional knowledge and western scientific knowledge within their boards. (...) And I think it’s a very powerful body that speaks for the community on wildlife and environmental concerns.” (I-1)

As such, community plans provide a way for the Inuvialuit to express their vision of development. These plans also classify both public and private lands into five different levels of sensitivity (from A to E). By classifying lands, they are able to adapt development through preserving the Inuvialuit lifestyle and their traditional activities.

In these categories, economic development can only take place at a certain point in the year, which helps conserve the natural cycles of various animal and fish species. While these plans carry no legal bearing, they are taken into consideration and studied by proponents who wish to set up in these locations before the environmental analysis

process is undertaken (review committee, screening). With the Inuvialuit, the environmental assessment process, the official structure and representing various interests seems to support an important objective within an environmental assessment system: social acceptance of projects.

Community plans are documents developed for the communities; they talk about their region and what each one foresees for its territory.

Some people are sceptical when it comes to adhering to these community plans without any legal backing. However, gaps are compensated for by the Inuvialuit Final Agreement through its structure. In some respect, it almost plays the role of a land-use plan for the entire area. Without being too specific when it comes to locations, terms, exceptions and types of development permits, the agreement efficiently guides all stakeholders involved. However, in the case of a plan that lacks an efficient structure dedicated to its implementation, it would hold no grounds from the onset.

Without legal backing, whether on a community level (community plans) or on a territory level (the “Keeping the land” strategy in Pikangikum), it seems that these plans enable the Nation or the community to establish its vision. This public consultation tool also set out development priorities for the Nation. This helps in obtaining some level of control (to various degrees) of the land and its development. Integrated and forged into project environmental assessments, a planning strategy also helps establish thresholds and guidelines regarding cumulative impacts. An individual belonging to a Nation located within a territory overtaken by development explains that:

“The traditional territories include the city of Whitehorse and there is a lot of development that is happening, but this is often small projects like a farm, or a land for a house...and it’s really hard to argue how one little project is going to affect you know hunting, when little projects eat away at traditional lifestyle it’s hard to argue, with the cumulative effects...how this one little project is impacting.” (Y-2)

7.1.3 Co-management structure in Inuvialuit

Overall, the co-management structure developed and implemented by the Inuvialuit Final Agreement seems to satisfy the Inuvialuit. Their interests are officially represented within this structure, which is generally not the case with co-management structures in Canada. Polarizing various interests, which are represented within the structure, helps to openly debate and discuss them in certain situations. Here are a few of the interests represented: those of each Inuvialuit community, those of the entire region, environmental interests, economic interests, etc. The negotiation space is central and is essentially located within the co-management committee. It is a place

where issues are ultimately deliberated. Compromises are therefore necessary and inevitable:

“The structure of the boards really allowed each person of the community to have their voice heard (...) Sometimes it’s a struggle internally balancing the local needs against the bigger need. We had a case in Tuktoyaktuk with the pingos*. The federal government wanted to make a federal park on one of them. And it was on Inuvialuit land and so they had to arrange an exchange; they had to give us some federal land from somewhere else in order to trade the land for the park. They proposed some land on Melvin Island (way up to the north) in the settlement land. And people in Tuktoyaktuk were quite angry. They said this is not even in our community, this is not benefiting us. But there is considerable gas and oil potential in the piece that the federal government gave us in exchange. So there might be a significant economic value for the entire settlement region. The people in Tuktoyaktuk had to say: “Ok, although it is not in our community’s best interest, it’s in the best interest in the RSI as a whole. So there’s that kind of trade-off that has to be made as well.” (I-7)

**Pingo, a synonym of hydrolaccolith, is a round or oval mound, which can range between several metres to hundreds of metres in diameter and reach up to thirty metres in height. A large, periglacial landform made of ice and formed underground, it can take the shape of a mound or a trough and is usually circular, if it has fused.*

7.1.4 Agreement in Yukon

The steps taken to redefine authorities between the Yukon Government, the First Nations and the federal government as per the Umbrella Final Agreement signed in 1993 have made it difficult to accurately evaluate environmental assessment and land-use planning within this territory. The various authorities that met thorough this mission are still fine-tuning the processes. Following the *Canadian Environmental Assessment Act’s* implementation in 2003, there was a short period of time before it was given credence. Processes and guidelines were largely established within the Final Agreement, which therefore helped ensure a certain level of flexibility to adapt it. Furthermore, a consulting firm is currently reviewing it in order to assess the first five (5) years that the *Yukon Environmental and Socioeconomic Assessment Act* has been in place, as well as to make suggestions to improve its processes or implementation (see the report published online for more information: <http://www.yesaareview.ca/>). Some of the published recommendations will be used within this report to supplement the reflection on linking federal and Aboriginal procedures.

A short amount of time has elapsed since the Final Agreement was signed and implemented, which is seen through the progress made in land-use planning. Few plans have been completed to date (at the time of our field mission, one had recently been approved and another was in the process of being approved). Consequently, it seems that on some levels, projects are continuing to be approved on an individual basis without regard for them as a whole. While environmental assessment seems to satisfy the majority of people interviewed, certain gaps in planning, consulting and decision-making involvement were mentioned. Implementing mitigation measures put out by the agency responsible for environmental assessment are not backed by reinforcement tools (*Yukon Environmental Socioeconomic Assessment Board*).

Finally, a planning strategy is certainly an asset. It can serve as a tool to protect Aboriginal knowledge. Some Nations have implemented a system to describe their land, which is well defined in their planning process (e.g. the *Gwecho*). Occupancy, knowledge and toponymy are therefore described in a written document. As their tradition is usually oral in nature and threatened by the disappearance of Aboriginal languages, writing ensures the future of these cultural "pillars." Planning can also help predict necessary compensation, if ever resources that are currently being used come under increasing pressure. The number of resources and the thresholds calculated helped to establish the "terms of reference." The Inuvialuit have sought out meaningful consultation in order to calculate the state of stocks. The task was extremely difficult to coordinate, as people were reluctant to disclose some information for fear that it would be used to decrease quotas in the future. These concerns were legitimate, as this exact situation had been seen in the past.

Certain technology can make work easier for a Nation made up of various communities to develop a strategy while taking unfamiliar realities into account. The Inuvialuit encountered a few such challenges. The Nation is made up of six (6) communities, a few of which are located particularly far away. This sometimes created communication problems:

"From the committee it works; you get all the different perspectives and opinions...you get like a holistic approach. From the communities I think there is a weak link between the hunters and trappers committees. It's a small area in terms of the land where the communities are located and some are quite far away and a lot of times it depends on the communication, the way people communicate; it's easier to sit in a room like this and be able to see this to understand what people are saying. And they get a lot of projects coming to them and a lot of activities coming around here, when you have a consultation the time goes by and by the time you see a project description sometimes you forget that you met that guy or that girl that came talking about

the caribou thing and you see it on paper, and maybe they change the title, and there are no photos of the people.” (I-2)

7.1.5 Social impacts

Environmental assessment procedures on both a federal and structural level are not often able to take into account or assess social impacts. In the Yukon, for example, different levels of government (territorial or Nation-based) do not have the legislation or the plans necessary to take them into consideration. Currently, only land impacts are subject to legal mechanisms (permit requirements). Legislation does not exist that helps them manage social and socioeconomic circumstances. In fact, recommendations put forth by the Agency responsible for assessments (*Yukon Environmental Socioeconomic Assessment Board*) do not address implementation structures. As such, socioeconomic structures cannot be governed by a permit:

“We do consider social impacts...The problem that we have in Yukon is that many of those governments (including First Nations) don't have the legislation on the social side or socio-economic side. And so what we are finding is that we are getting to a point where our recommendations in regards of the socio-economic impacts of projects don't have a home. Under the Canadian Environmental Assessment Act they have super added powers and so a body is able to take in other factors and including in under a particular licence even it is not under their act in order to mitigate effects. In Yukon it is no longer the situation because CA doesn't apply. (...) Here we don't have that super added power within the set-up in our legislation. So what happens is when it comes to socio-economic issues they don't find a home with any permit and so they are not able to be enforced to the same level. (...) And so what we found is that our socio-economic recommendations tend to be rejected or when they are accepted they call them orphan mitigation because they don't get picked up at the end.” (Y-9)

The Canadian Environmental Assessment Agency can, however, issue licenses or permits in order to mitigate a project's effects, even if not regulated by law. In the Yukon, this is not the case. This Agency has the right to do so because it is a federal entity. This “further power” does not have jurisdiction everywhere else.

Yukon Nations are currently working on documents related to decisions and the adoption of a law in the hopes that they will be brought together under a single Act (Decision Document Enforcement Act), which would enable them to ensure that the terms of any recommendation or mitigation measure are respected.

The territorial government is not without such a law, but it seems that this is a real issue of concern for the Nations:

“A lot of socioeconomic issues can be picked up with an impact and benefit agreement and that’s not the best way to deal with it; we’d like it to be picked up by a regulatory authorization.” (Y-9)

Furthermore, according to such a law, socioeconomic impacts should not necessarily be linked to environmental effects, as the Canadian Environmental Assessment Agency recommends.

7.2 Balance between Aboriginal and scientific knowledge

7.2.1 Building a relationship of trust

During the mission, those interviewed mentioned a number of important elements.

Bringing this knowledge together must stem from a relationship of trust between stakeholders. This is mentioned in the literature on adaptive co-management; reciprocal learning requires that this type of relationship be established between individuals involved. It also requires a certain length of time, openness towards others, a desire to move forward and do things differently.

In Ontario, some people interviewed described the relationship between certain members of the Pikangikum Nation and the Ministry of Natural Resources as a true friendship, to the point that they almost feared future economic development might be impacted. There is a deep level of mutual respect and trust between these two groups.

One individual from the Pikangikum Nation described it as follows:

“Our relationship with the MNR (Ministry of Natural Resources, Ontario), years ago, used to be under the table. They didn’t come and sit at the table with us. But through this process of planning and also with the EA (environmental assessment) we started to sit at the table with them. So some of those things...I learned a lot. And some of these things it was the first time I heard in all these years. All the elders can say the same things, over the years, what we have learned from the MNR. All these things that were hidden, that were brought on the table. Remember what they said: It’s an open process. We have to start telling the truth.

It's the only way it's going to work; it's to have that kind of relationship, based on trust." (O-2)

Discussions and debates are also sometimes at the forefront:

"If they are here and they want to work with us, they trust us. And we trust them. We made that clear from the beginning. (...) Sometimes, you know when you are in a relationship, you have to confront the other party, and it's like a marriage. It's a working relation but it's not always good." (O-3)

With both seniors we met and members of the Ministry of Natural Resources, balance between knowledge was a priority. This balance is achieved through talking together in order to make mutual decisions on the use of knowledge. It is not so much a question of bringing them together, as it is to use them as equally as possible. It is imperative that the two groups decide together how this balance should be achieved:

"The information will be collected and it won't be myself that will be putting it into use. There will be a balance, someone else, with me or with us working together. So I might know my knowledge and working with a committee they'll know their knowledge and together we can figure it out how we can use both: when do we use this one only, and how do we use this one only and how does it fit. And the risk is if we take it, or if we collect it or if I ask them to collect it and take it away, and we do all the work, there is not going to be a full use. So we need to be together in the application of it; otherwise, I will always refer to what I know." (O-9)

The interpersonal dimension plays a key role in the balance between this knowledge. As such, they emphasized the importance of having committee members collaborate with Aboriginal peoples and work to established locally-invested environmental assessment processes. It is with these people that discussions should take place on a regular basis, with whom face-to-face contact should be made and for whom clear communication must be established.

Nelson (2005, cited by Bruce Maclean [CIER, 2006]) explains that there are many ways of integrating Aboriginal knowledge into environmental impact assessments. In an effort to coordinate both types of knowledge, Aboriginal knowledge is sometimes reduced to tangibles elements, to "things" that have been defined. By creating a dichotomy between knowledge and its holders and by allowing outside individuals to interpret this knowledge, we are recreating the subordination to which Aboriginals have been subject for a long time.

However, the First Nations' desire to have their knowledge recognized stems from their determination to access the political process. By allowing outside individuals to interpret and create methods of use, we are stripping them of this. By manipulating their knowledge systems, we discredit their holders (Maclean, 2006). Furthermore, in some cases, Aboriginals might not have any advantage or interest in investing themselves in the impact study procedures. It is a tool that originates from a Western world and vision, which a Nation would have no desire to invest itself in. The locations visited and the literature (Wyatt, 2005) indicated, however, that an adapted and flexible framework represents an efficient land-use management tool, especially when it is adapted to the Aboriginals' needs and vision.

From a practical standpoint, the individuals in the field who work in environmental assessment addressed several issues. Precision, confidentiality, tight deadlines and the availability of information that is generally required to carry out studies make the process very challenging:

“In the traditional territory, there is a lot of development and there is a lot of small development that is happening like a house or a farm or a small land for a house and it's really hard to argue how one small little project is going to affect hunting or gathering...when a little project takes a little away of the traditional lifestyle, it's challenging to argue. So we are trying to do our own studies of cumulative effects and give better information to the process.” (Y-2)

Some work that seeks to establish validity and reliability criteria was carried out in order to mitigate ethnocentric scepticism regarding traditional knowledge (Maclean, 2006). This research had no such intention. However, it appears that the seniors' involvement in the procedures and processes encourages this validity and guarantees its reliability. Their teachings are recognized and a great deal of attention is paid to them, both internally and externally. The expertise that they have developed through experience and observation is valued by all Aboriginals and non-Aboriginals working with the Nations. Moreover, this reinforced unity and coherence within the Nation, which represents a true asset on the road to structuring and organizing it.

Finally, seniors hope that the government recognizes their teachings and knowledge as being equal to scientific knowledge.

7.2.2 Modifying a legislative tool

In Ontario, a policy was amended so that the Nation could express its vision of forestry and integrate its knowledge into the environmental assessment process (see box 7.1).

Box 7.1 ref 010-3417

Declaration Order for Environmental Assessment Act coverage for Forest Management on the Whitefeather Forest

**Ministry of the Environment
June 10, 2009**

A Declaration Order has been granted pursuant to section 3.2 of the *Environmental Assessment Act* (EAA). The Declaration Order was approved on April 29, 2009 (662/2009). (...) Forest management comprises the interrelated activities of access, harvest, renewal, maintenance and their planning on Crown lands. Ministry of Natural Resources (MNR) must prepare a Forest Management Planning Manual (FMPM) incorporating the planning conditions of the Declaration Order and a forest management plan (FMP) for the Whitefeather Forest.

(...)The terms and conditions in the Declaration Order will ensure that forest management in the Whitefeather Forest includes public consultation, forest monitoring and reporting, as well as specific requirements for preparing FMPs. The other conditions will also ensure that Pikangikum First Nation's customary stewardship and a strategic approach to the planning of access roads is incorporated into forest management planning, and that a continuous supply of habitat for woodland caribou, both over time and space, is sought for the Whitefeather Forest.

The Declaration Order for forest management in the Whitefeather Forest is in keeping with the direction of the community-based land use strategy completed cooperatively by MNR and Pikangikum First Nation, documented in *Keeping the Land: A Land Use Strategy for the Whitefeather Forest and Adjacent Areas (Keeping the Land)*, which was completed in June 2006. (...)

The land use strategy set out in *Keeping the Land* follows the principles of the Northern Boreal Initiative, established in 2000, which sets out a framework for the development of northern Ontario. The land use strategy also meets the intent of the Far North Planning Initiative, announced by the Government of Ontario on July 14, 2008, which includes working with individual Aboriginal communities to complete a local land-use planning process and a plan to protect 225,000 square kilometres of the Far North boreal region.

The Declaration Order will allow Pikangikum First Nation to begin developing its economic opportunities, through forest management planning and the development of the Whitefeather Forest Management Corporation. This corporation is a forest company owned by Pikangikum First Nation, and will be responsible for forest

management planning in the Whitefeather Forest.

Source:

<http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTAzMzM1&statusId=MTU4NDcy&language=en>

The original legal order was developed to work with logging companies and not with the First Nations. In Red Lake, in the Ontario Ministry of Natural Resources' regional office, the employees had never before worked on such an order. When the Pikangikum Nation approached them to help them change their governmental policies in this area, it was a good start.

In their motion for a variance, the province responded that the current procedure for impact studies was based on scientific knowledge and could be applied in the Whitefeather forest. The elders, however, made it known that their knowledge was also worth taking into account:

“Number one we have our knowledge; so when you do your EA, your knowledge is part of what supports your decision; so the information about the caribou and all that stuff. And number two, when you do that EA, you have to get a decision that allows the First Nation to do what it needs to do to follow their tradition of keeping the land. So they say ok, you got your stuff, fine, we've got your stuff, so we need you to accept our tradition of keeping the land for the EA approval for this area. It would be too long if they had to do it all over again: panels, hearings.... (...) If you take our stuff and put it with yours, and if you approved our way of managing the land, then yours is ok, we put that together. That's what was agreed.” (O-6)

An impact study procedure was specifically approved for them. In the steps taken to amend the legal document regarding the balance between aboriginal and scientific knowledge, it seems that terminology was of the utmost importance (which is the case with any agreement). The elders wanted a completely new forestry industry. This sparked a lot of debate and discussions concerning the terminology used in order to ensure that there was balance between the two versions and that the order respected the “Keeping the land” strategy and the elders' opinions.

For the Nation, impact studies are a tool with which they can acquire the permit necessary to apply their strategy within the Whitefeather forest territory.

7.2.3 About knowledge in Inuvialuit

According to a hunter that we met during our trip in the Inuvialuit region, their knowledge is taken into account in the environmental assessment through community plans. Furthermore, hunter/trapper committees are working on an Aboriginal ecological knowledge guide that will be used exclusively by them. This same individual also stated that things have changed; before, only scientific knowledge was respected. Now, their knowledge was worth as much as diplomas, because they know better than anyone else what happens on their land. "And it's now entirely respected" (I-6).

The Inuvialuit history is fairly unique in that they were able to express their point of view during negotiations held before the Final Agreement was signed in 1984. The Inuvialuit, therefore, had to show that their income-generating activities did not threaten the beluga population. To do so, the Fisheries Department took things into their own hands in order to create a beluga monitoring program. Hunters were trained and paid to participate in this program.

As mentioned by one of the individuals interviewed, these activities had several outcomes. First, local people were responsible for monitoring their own harvest and took care of collecting data themselves. Their knowledge is taken into consideration, as they developed the ability to interact with animals and knew where and how to collect data, which stems from certain cultural practices. Not just anybody can show up to take the steps necessary; the Inuvialuit Inuit know what to do.

Science also benefited from this. Individuals interested in researching these species now inevitably go through the people responsible for monitoring. Working with these people translates into a large number of samples and better documentation for research projects. For these scientists, it would never have been possible to acquire all of these samples and to conduct such specific research without the help of the Aboriginals. Scientists and Inuvialuit continue to collaborate to this day.

It therefore seems that the Inuvialuit experience, that from the onset involved collaborative research that emphasizes both Aboriginal and scientific knowledge, was a positive one. They began by taking advantage of all available resources, including Aboriginal knowledge. One can easily imagine an entirely different image of co-management, more than 25 years after the Agreement was signed, if a team of external scientists had been responsible for addressing the threat to the beluga population.

With the Inuvialuit, the co-management committee is made up of half Inuvialuit and half government representatives. Creating a balance between traditional knowledge in the management of fauna and the environment is a process. Each group learned how the other thought. As such, everybody brings their own values to the table and assesses

the consequences of the issues in their own way. These discussions generally take up a fair amount of time (the question of time was brought up on a number of occasions during our research). Finally, a compromise is always made halfway between the two perspectives. The example of tagging animals for research purposes illustrates this notion well. Tagging was carried out by various stakeholders. For the Aboriginals, tagging animals disturbs them and alters their behaviour. Non-Aboriginals express a certain level of scepticism with regard to this belief, but they were able to let this go. In order to come to an agreement that suited both parties, a minimum number of animals were tagged and only within some areas. Scientific data is still therefore collected, but with greater respect for the Aboriginals' point of view.

7.2.4 Delays and consistency

These discussions do, therefore, need to address one issue: time. As one individual working for the Ontario Ministry of Natural Resources mentioned, it's not a matter of saying "here's the issue: now, let's make a decision." By spontaneously making a decision, it is not possible to incorporate both types of knowledge. Furthermore, some issues are prone to debate, as one individual in the Yukon said.

Deadlines must be established in consideration of this need. As such, nominating members to committees must also be done so as to account for the time required to appropriate and understand each others' roles. In Inuvialuit, some co-management structure mechanisms are complicated; within this context, a long-term commitment (from those nominated to the committees, for example) is crucial to understanding all aspects of co-management and, especially, the values and dynamic of all parties involved. Playing in its favour, the co-management structure, while certainly not without criticism, promotes information sharing between Inuvialuit members and federal government representatives. This same point of view is shared in Pikangikum and in Inuvialuit; it is better for committee members to remain for enough time to ensure a spirit of collaboration. An early departure has considerably adverse effects on these activities.

7.2.5 Doing things differently

Furthermore, individuals hired by the Ontario Ministry of Natural Resources are selected for having certain qualities and values that enable them to work directly with a Nation. This openness and the resulting outcome also help to reinforce the desire of individuals in higher positions and leaders to continue to cooperate. It is crucial that this same desire be shared at higher levels (regional, provincial, national).

The desire to do things differently is unique to each location and greatly varies among those involved. Furthermore, it would be of great benefit to educate the public and make them aware, on many levels, of Aboriginal claims and realities. Due to the fact

that such efforts are often made on a local level, one could easily assume that providing opportunities to informally exchange information between Aboriginals and non-Aboriginals would be an efficient way of dispelling certain ideas and prejudices:

“And I’m sure that other places that have the same type of difficulties and that the people on the government side aren’t willing to try something different or to go an extra step...and to be very blunt. I think everybody has probably a small part of racism inside and for some people it’s wider than others. And people are going to say sometimes: “Oh...you know they get everything...So why should we go further to help them?” And so some people are willing, some people are not and it seems like here people want to do that.” (O-9)

7.2.6 Decisions

In the spirit of collaborating to maintain a balance between types of knowledge, the other issue is power. On a significant number of occasions, it was mentioned that power should be equally and fairly distributed among all parties involved so that both scientific and Aboriginal knowledge is taken into consideration.

In the Yukon, mechanisms to incorporate Aboriginal knowledge have, much like other elements of environmental assessment, remained in the learning stage since their implementation in 2003. As such, it is difficult to give credit to this knowledge in the context of environmental assessment. Incomplete planning, limited (human and financial) resources and concerns over confidentiality restrict its use by environmental assessment employees. Some issues have already been addressed during the ongoing legal review process.

Mechanisms that help to better take Aboriginal knowledge into consideration (saving knowledge, land-use planning, policy on knowledge use) and that aim to improve the process are currently being developed. Today, when it is possible for them to do so, assessors take this knowledge into consideration. Furthermore, when carrying out a pre-project study, proponents work with Nations and incorporate their knowledge.

7.3 **Linkages**

7.3.1 Linkages on a case-by-case basis

Every Nation or Aboriginal people should participate in defining its own linkages with regard to ongoing provincial and federal procedures:

“In terms of a cross cultural collaboration, the first thing in the context of environmental assessment I think in trying to create a new approach for environmental assessment. It’s important to start from the ground up so don’t begin with the government framework and try to fit indigenous values into the process. So it’s important to start with a clean state and say what is important to this community. And that’s the only way I think we can do it maybe because I’ve worked with Pikangikum so I can’t say what it would be like to work with other Nations. And so most of the Nation and the community want to have a unique approach and only want to speak on the behalf of them.” (O-10)

In the planning stage, it is essential to specify what is important to the community. Strategic environmental assessment allows Aboriginals or a Nation to establish their priorities and vision for the land. As part of the planning process, it avoids assessing projects on a case-by-case basis in the future. Through a public consultation process, it helps determine the issues of priority within a territory, especially those of an economic, social or environmental nature. The important resulting trends are therefore based on the Nation’s realities and objectives; it is on this very basis that the environmental assessment procedures and tools should be focused.

Those that have already begun to plan or that have become involved in environmental assessment procedures should set a great example:

“The planning process that Pikangikum has done and completed is only for Pikangikum. The reason why we say that is that other Nations, in other territories, they have their own ways of hunting on the land, and doing things on the land. So with that in mind, we respect other First Nation people. So we have told the government and we have told MNR that this is our planning; they cannot take our plan to another First Nation. You have to respect other First Nations. This is the teaching of the elders.” (O-8)

“Too many times in the government systems...they like to do all these feasibility studies, and then First Nations apply for funding if they want to do something...we don’t want that. We don’t want that to happen, like our elders said we respect other First Nations. They have their own way of doing things, cultural and traditional practices...and we have to honour that.” (O-5)

For Aboriginals to participate in the environmental assessment system in a meaningful way, it is important to emphasize their skills and resources so that they may establish their own priorities.

A complicated structure or procedure (i.e. bureaucracies) may have a negative impact on collaboration. Comments to this effect were made in Inuvialuit. Guidelines are currently under review and aim to clarify some elements in the environmental assessment process:

“So we want it to make more sense for the whole process. Have a project description and be more clear with the developer so they know exactly what they need to do, give them a little bit more information on how to incorporate traditional knowledge to tighten that up at some levels...and also because some people have pointed it out sometimes how come research project doesn't need to go through, and the governmental project needs to go through, what's the difference environmentally speaking (...). So to try to maybe create an exemption list, based on threshold for instance, if you're going to catch 3 fish you don't need to go through, if you are going to catch 4 you need to...” (I-2).

7.3.2 Knowledge sharing

It was said that a true meshing of these types of knowledge (scientific and Aboriginal) could be made possible without striking a balance between powers. This balance is achieved through a larger number of Aboriginals becoming involved in decision-making, true consultation and good faith which takes their opinions into account, an open and transparent process and complete consideration of their knowledge, values and objectives. Balance could therefore be improved at a number of different levels and steps of the environmental assessment process.

The definition of an “environmental effect” in the Act addresses the use of lands and resources by Aboriginals for traditional purposes. This implies that their involvement is required, as they are the only ones able to determine if a project will affect their use of the land and its resources.

In Inuvialuit, the way in which the chair of the co-management committees was nominated has come under fire. Always nominated by the federal government, the chair's role is essentially to make decisions when conflicts arise, which is in itself a conflict of interest. According to some people we met, it should be possible to elect a chairperson from Inuvialuit. This is currently difficult, as they are selected based on their previous experience and the fact that the structure remains of a “western” nature. It would be surprising to see things changes. Selecting an Inuvialuit chairperson would represent an efficient way of rebalancing powers within the context of this framework.

Except for this, the co-management structure, as defined by the Final Inuvialuit Agreement, is commended by those that took part in its development. While the federal government retains decision-making powers, recommending powers are tangible as, to date, recommendations have been taken into consideration by decision-making authorities.

“In most cases, co-management is we advise you and they split the authority of government. Government cannot make a decision until it hears the advice of this board (review board). And if it accepts the advice, then the government or minister can make the decision. If it doesn't accept the advice, it still can't make a decision. It has to come back to the board, explain to the board why it doesn't accept the advice, give the details and then the board can consider again. So it's somewhere in the middle of the scale; co-management slows down the ability of the government to act independently.” (I-5)

Furthermore, the power seems to be shared and maintained at an accessible level and respects tradition:

“The whole principle of Inuit land claims from the point of view of culture is keeping the power as low as possible. So you don't have one individual or a high level. Most of the power is here; to allow the individuals and the communities to have a voice.” (I-5)

According to one individual working on a co-management committee in Inuvialuit, there is a problem with having more than one power, i.e. having more responsibilities and being accountable for decisions made:

“And if you become the decision maker, you become the government and you become fully accountable and, you could be sued and you have the public that expect an explanation from you. We are not that big. No land claim is big enough to have all that. Why would you want it? You suddenly become government. Having all the power is not always good.” (I-5)

In this case, it is seen as a positive thing to have an arrangement that accounts for the location and that requires consensual decisions and discussions. It seems that on a general level, the Inuvialuit territory, the federal government and the environment are all taken into account.

In the Yukon, the decision-making power has also been criticized. The First Nations of this territory only possess this right on owned lands and co-management is carried out through an unequal level of sharing:

“The biggest problem with those committees is that they are advisory committees, from the general public. Other government departments, our government makes appointments, they are only advisory committees so they are making recommendations and they are working quite closely together, but the final say goes to the minister. So even though they are going through all the work of making recommendation, it goes to the minister and the minister can say yes no maybe so. So what is the purpose? This is what we are finding with these boards and committees, if their recommendations are not being heard. And this is what we are saying and especially with environmental assessment, we need them to have some teeth. They should have more power; if they don't have more power, then they should going back to 3 government representatives for approvals. Right now, we are participating as a First Nation, but as a matter of what we think. And we can't stop them, unless it's in our jurisdiction even if it's only in our traditional territory.” (Y-1)

In the Yukon, even though the Umbrella Agreement includes the Nations' involvement in environmental assessment decisions, in reality, their power is very limited. This is due to the fact that the majority of projects are carried out on Crown land and the owned land only account for about 7% of Yukon's territory. Consultation mechanisms are criticized in certain respects for the remaining portion. A number of small projects were also authorized, without considering their cumulative impacts.

The Agency that assesses impacts is independent and works openly and transparently. While sometimes criticized for its role, it seems to entirely satisfy the parties involved. However, certain aspects continue to be left out of the planning process (lack of plans), as well as monitoring and follow-up processes. Furthermore, even if the Agency responsible for environmental assessments recommends efficient measures to mitigate certain impacts, nothing requires proponents to respect them. As such, finding mechanisms that would require proponents to adhere to these mitigation measures would help improve the procedure.

7.3.3 Consultation

In Inuvialuit, before the Final Agreement was signed, meaningful consultation was carried out, during which each house was visited within the community. Today, it is the local hunter and trapper committees that are responsible for consulting the community on regional fauna.

Meaningful participation is sometimes hindered by too many project consultations. If a structure seems to enable individuals to efficiently participate in decisions on the

Agreement territory in a way that is generally satisfactory, the ability to meet all consultation requests is undermined. As such, a consultation mechanism (proponents initially consult communities to discuss their project and approach committees after the initial screening), helps the Inuvialuit participate in the environmental assessment process. It is difficult for them to respond to all requests. A large number of projects therefore come before the hunter-trapper committee and the community without having previously been subject to important consultations. According to those interviewed, it's quite a "little problem." The lack of participation on behalf of community members could be problematic:

"One of the disadvantages that comes up and it's a disadvantage of their own making but...is that there's a big burden put on the community. It's sort of what they ask for. If you go the hunters and trappers committee one of the things they will tell you is how much work they have to do reviewing projects. (...)They don't always have the expertise within their board to maybe do an entire assessment of that. And it takes also time to work on other issues such as management of the wildlife. (...)You may go to into a community and they have consultations going on 5 days a week. Different companies are coming and they do their consultation on every night of the week or you know researchers or other groups...So it's getting very hard to schedule meetings and when you do then nobody shows up because they are sick of going to meetings. So it's trying to find that balance in having the input and not putting so heavy a burden on people of the community. You know, they have their own lives to live." (I-1)

To date, promoters initially present their projects to communities and then to members of hunter-trapper committees. Any concerns raised are documented and attached to the project description. During the review stage of the initial screening process, proponents must describe how they intend to meet these requirements and how they are going to take the designated lands into consideration within the community plans.

Generally, companies and researchers want to accommodate communities to the best of their ability, complete the process as quickly as possible and begin to work and generate revenue. Operations are very different now than they were prior to the Final Inuvialuit Agreement, a time when communities didn't have the means to make their voices heard. Nowadays, they develop the project alongside proponents.

Monitoring is conducted by the Inuvialuit in order to ensure that the conditions established and mitigation measures are thoroughly respected. Furthermore, a training

program has been developed in partnership with educational institutions to provide an opportunity for interested Inuvialuit to pursue studies in this field.

7.3.4 Capacities

During our fieldwork in Inuvialuit, we began to question the consultation practice. Wouldn't it be easier for the government or the Inuvialuit to take responsibility for responding to consultation requests or is going to the communities themselves the best option? And what if the co-management structure were responsible for consultations? The responsibility was shared: for some issues, it would be beneficial to address consultation. However, when dealing with controversial issues or in light of difficult decisions, individuals and committees that were consulted did not want to make decisions without community input. This varies, however, from one person to another and according to their position, as it is of little importance that they be elected or nominated; they represent a group of individuals, an organization or an entity. Some people do not feel comfortable with this responsibility and seek to legitimize their decisions by means of the community.

When communities give their support, much like with fauna and fishery co-management committees, the *Inuvialuit Game Council* may take responsibility for consultation, but it is a question of capacities. Time and resources are often lacking when it comes to undertaking such a task.

In the Yukon, Nations affected by a project (as well as the general population) are systematically invited to comment on a project as soon as it is received by the *Yukon Environmental and Socioeconomic Assessment Board*, the agency responsible for assessments and recommendations. However, limited capabilities again prevent projects from being assessed. Some projects of lesser importance are not commented on in order to reduce the amount of work for some individuals responsible for this task.

In order to avoid excessive consultation in Inuvialuit and to maximize benefits, it would be advantageous to structure consultations, while ensuring that they remain upstream. For example, in light of the size and scope of projects, guidelines should be established and defined by the Nation or the people. The need to have Aboriginal technical experts that work for the Nation was addressed in each location visited.

“And the expertise is very important. If you don't have it on the committee itself than you have to rely on external agencies.(...) There is a lot of very specific and a lot of technical details on a project (the “nuts and bolts” of a project: materials, size, ice impact on a structure...) that you have to try to understand and in some ways you have to trust what the company is telling you. You read it on paper and it's very conceptual. And so there is this

element of trust. And there is impact and it needs to be mitigated.”
(I-1)

“And just having the knowledge on specific issues, to ask the right question it is a key thing. To know whether something is being proposed, there may be a problem. There’s other alternative that might work better ...” (I-1)

As such, training and capacity building activities are becoming increasingly important. With both non-Aboriginals and Aboriginals, it is important to encourage them. For these people, training within the required fields of expertise enables them to bring many perspectives to the table within the context of co-management and within their communities. Furthermore, Aboriginal knowledge training would be beneficial for experts and scientists. All of this would undoubtedly foster mutual understanding and create bridges between people and cultures (Berkes, 2009).

7.3.5 Linkages with the Act

In interviewing organizations participating in the environmental assessment in the Yukon, we were able to benefit from certain lessons they had learned from the experience of excluding the *Canadian Environmental Assessment Act*. The new legislation implemented by the territorial, Aboriginal and federal authorities helps to arrive at certain conclusions. The most commonly made comment refers to the fact that it is an independent agency that assesses projects transparently:

“It works well for Yukon because it deals with multiple jurisdictions. And YESAB is independent and not tied to any government.” (Y-9)

However, excluding the *Canadian Environmental Assessment Act* is criticized on certain levels:

“Unlike other legislation or other agreements, it does not set aside the Act. Our legislation has been designed to be silent on that. And the way our legislation has been designed is as long as a project is assessed by YESA then it doesn’t have to be assessed by the Act. I don’t think that’s a very clear way to deal with that issue of dealing with other assessment regimes. I think that there are probably better ways to deal with that which would have been an exclusive statement.” (Y-9)

However, the importance of words was also addressed on a number of different occasions when discussing planning with stakeholders concerning the creation of the Act. In the *Yukon Environmental Assessment Act*:

“One of the things that we hear also from the people that’s a little bit difficult is particularly at the beginning of the purpose of the Act, it sets out a whole bunch of lofty goals and objectives and purposes but then when you get down to what we do, which is: are there significant adverse effects and that’s what we have to determine, that doesn’t really fit with one of the purposes which is to enhance the quality of life for Yukon Indian people. There’s a little bit of a mismatch this is sort of what we hear.” (Y-8).

7.3.6 Conclusion of the field work

To summarize what we gained from the field work, we need to mention that certain environments are better suited for a true collaborative dynamic between Nations, whereas others sometimes encounter additional challenges. We believe, however, that changes in attitude and practices have generally begun:

“Our boss is willing to try something new. We are very fortunate. So I’m guessing it is his responsibility too to hire people who will follow what he believes in as well as that he’s right. Which ultimately, our province is trying to tell us: we need to work more with First Nations. And it’s more than just engagement and talking with them, it’s also working with them.” (O-9)

Let’s take a look at how this can transform environmental assessment practices.

8. CONSEQUENCES FOR ENVIRONMENTAL ASSESSMENT PRACTICES

8.1 Analysis of factors favourable to linking Aboriginal procedures and federal and provincial procedures

The environmental assessment procedure varies from one institution to another (organization, government, etc). These different processes, if they differ in terms of form, remain essentially identical as they share the same objectives, one of the most important being to help competent authorities take the environment into consideration during decision-making (André et al., 2003). In order to analyze the factors favourable to linking the different procedures, it is appropriate to briefly go over them.

8.1.1 Example of a provincial procedure: Quebec

Knowing that the Atikamekw Nation is located in the province of Quebec, we decided to quickly go over its environmental assessment procedure. In Quebec, there are four impact assessment procedures according to each distinct jurisdiction:

- The area located to the north of the 55th parallel, governed by chapter 23 of the JBNQA and section 3, chapter 2, of the Environmental Quality Act (Kativik territory)
- The area located to the south of the 55th parallel, governed by chapter 22 of the JBNWQA and section 2, chapter 2, of the Environmental Quality Act (James Bay territory);
- The Moinier area, governed by section 31,9 of the Environmental Quality Act;
- The area governed by chapter 1 of the Environmental Quality Act (Southern Quebec).

The current procedure in effect in Southern Quebec is described in chapter 31 of the Environmental Quality Act, which also includes the *Règlement sur l'examen et l'évaluation des impacts sur l'environnement* (Règlement des impacts), adopted in 1980. The procedure in effect in the region located to the south of the 55th parallel is the one for the James Bay area. This is the area governed by the 1975 James Bay and Northern Quebec Agreement. The two remaining territories have similar procedures to one of the following procedures described here.

Figure 8.1 is a visual summary of the process used in Southern Quebec.

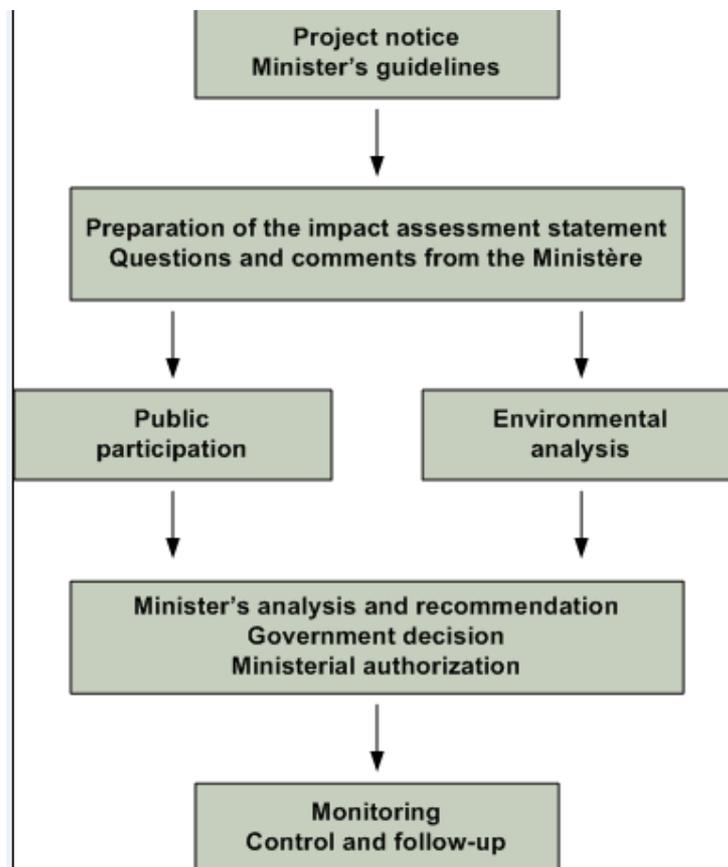


Figure 8.1 The review and assessment procedure for environmental impacts in Southern Quebec (Québec, 2004)

8.1.2 An example of a “hybrid” procedure: The James Bay Agreement and the Paix des Braves

The James Bay and Northern Quebec Agreement (JBNQA) between the Quebec provincial government, the federal government and the James Bay Grand Council of the Cree and the Kativik Inuit Council completely changed the situation in the James Bay area and simultaneously influenced future legislation throughout Quebec.

This agreement resolved two issues dating back to the 1800s. However, several conflicts continued between the Quebec and federal governments and the Cree Nation. Since the JBNQA, many environmental assessment procedures have been implemented, in addition to a federal procedure for a number of parties within the territory governed by it. The territory is split into several sub-groups with similar, yet

different, procedures. As a result of this division, the *Règlement sur les impacts* regarding Southern Quebec is supplemented by the regulation for Northern Quebec (*Règlement sur l'évaluation et l'examen des impacts sur l'environnement et le milieu social dans le territoire de la Baie James*) as well the regulation for Northeastern Quebec (le *Règlement sur l'évaluation et l'examen des impacts sur l'environnement dans une partie du Nord-Est québécois*). The two complementary regulations help integrate procedures into the Act that were implemented through the JBNQA. It is interesting to note that the title of the regulation concerning James Bay makes use of the term "social environment" (*milieu social*), which stems from Aboriginal land claims. All in all, Quebec's *Environment Quality Act* is associated with 56 regulations, only three of which are linked to environmental assessment. The Aboriginals' involvement in the environmental assessment procedure for the agreement was carried out by Cree representatives within the commissions, committees and other environmental review groups (Image 8.1). Furthermore, an Aboriginal group funding system was implemented in order to help Nations participate in the process and to have relevant documents translated into Cree. The problem with this process is that the public participation process is not clearly defined (Lajoie et al., 2006).

The *Paix des Braves* is an agreement that was signed in 2002 between the Quebec government and the Grand Council of the Cree. This historic agreement addresses the conflicts resulting from the James Bay Agreement and institutes a new partnership that confers equal rights to the Cree and non-Aboriginal Quebecers and acquires benefits for mining their traditional lands.

This agreement is not directly linked to environmental assessment or integration within this context, but it opens the way to new relationships between two peoples and leads us to believe that Aboriginal populations will now be included in decision-making.

Additionally, the *Paix des Braves* is a precursor to the agreement signed in 2007 between the federal government and the Cree Nation for the transition to a new relationship: the "new relationship agreement."

This agreement included the payment of a substantial amount of money (\$1.4 billion) over a number of years and clarified and encouraged Canada's commitments stemming from the James Bay Agreement. This agreement aims to resolve the conflicts from the past 30 years, as to date, they have yet to be reviewed by the courts (Paci et al., 2002). This agreement represents the first step towards having Cree self-determination rights recognized. As such, the June 2009 Bill C-28 amended the *Federal Cree-Naskapi Act*.

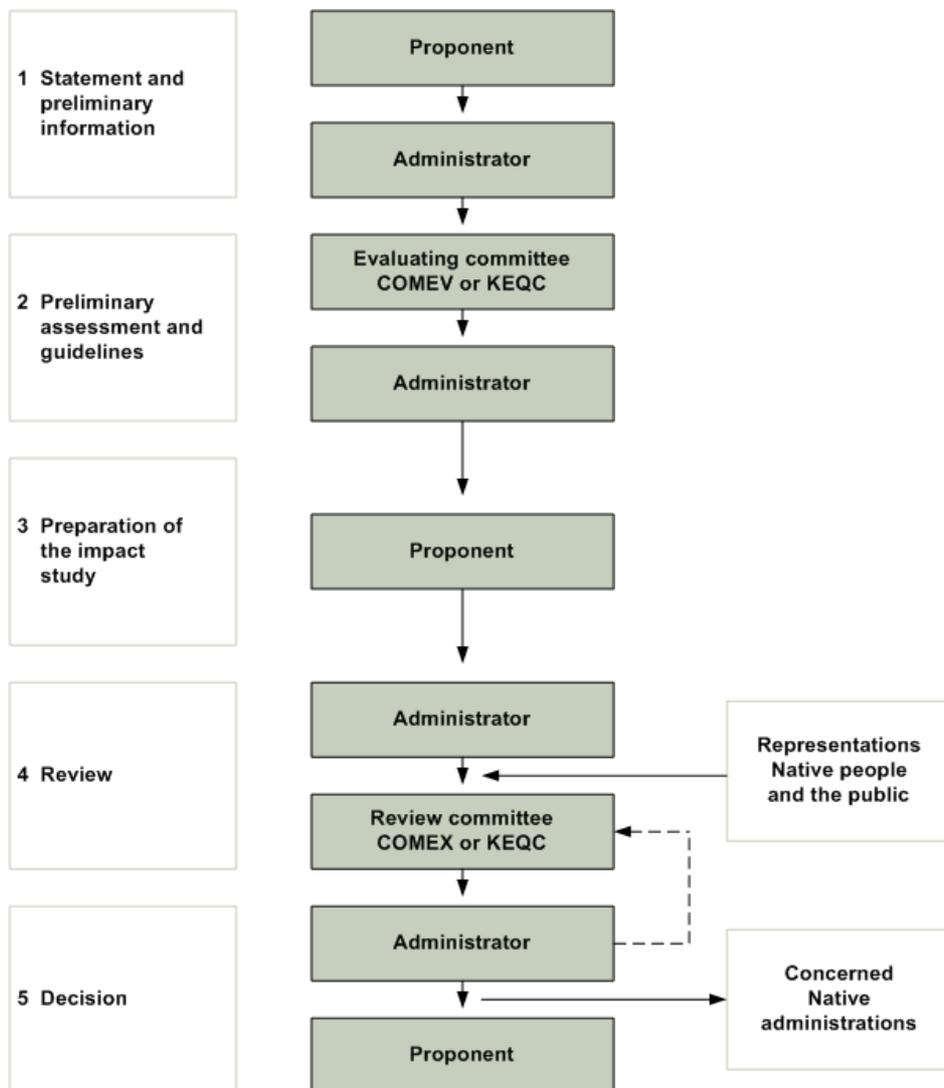


Figure 8.2 The review and assessment procedure for environmental impacts in Northern Quebec (Quebec, 2004)

8.1.3 The federal procedure

The *Canadian Environmental Assessment Act* provides the legal foundation for the federal process. It is triggered when a legal authority:

- proposes a project
- provides financial assistance to a proponent to enable a project to be carried out

- sells, leases, or otherwise transfers control or administration of federal land to enable a project to be carried out
- provides a license, permit or an approval that is listed in the Law List Regulations that enables a project to be carried out

There are a number of other reasons why an assessment should be implemented.

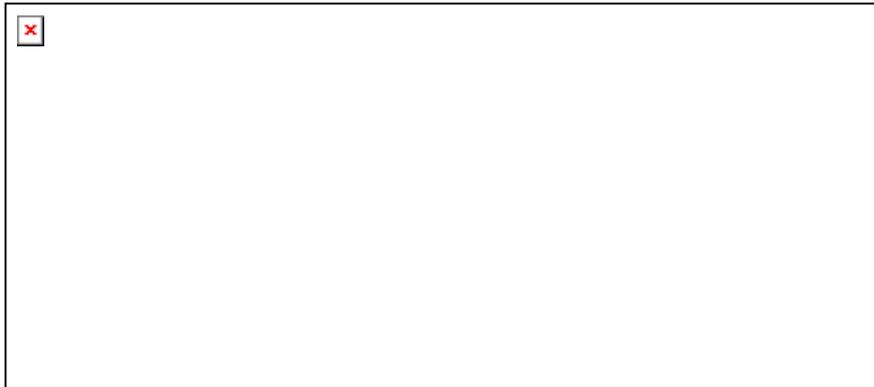


Figure 8.3 Simplified federal environmental assessment procedure (Canada, 2009b)

8.1.4 Harmonization agreements

In some cases, provincial and federal procedures can be carried out together when a harmonization agreement has been signed between the two procedures, according to the 1998 Canada-Wide Environmental Harmonization Accord. Most provinces signed such an agreement which established their responsibilities. Coordinating different authorities remains the responsibility of the federal government, according to the Federal Coordination Regulation (Canada, 2009a).

8.2 Proposals for the Atikamekw case

A strategic environmental assessment experiment was carried out at the territory level (a selection of traditional Atikamekw land) between 2003 and 2005 (GEIGER, 2005). Initiated by the Atikamekw Nation Council and carried out in collaboration with a group of researchers from the *Université du Québec à Montréal*, GEIGER (Group of Interdisciplinary Studies in Geography and Regional Environment) aimed to conduct an initial strategic environmental assessment project in order to test this type of planning within the Nation. Specifically, this pilot project helped articulate and materialize the Nation's role in land management and, specifically, regarding environmental assessment and involvement in decision-making. The next step in the future will be to implement this type of process throughout the entire Nation, develop and begin the transversal management process across the territory and based on Atikamekw values.

8.2.1 Establishing a land planning process

Atikamekw land-use planning structure scenarios will be created by a team made up of Atikamekw members and technicians. These scenarios will include distinct entities from the Nation, mechanisms defining communication and collaboration between them and the processes dedicated to furthering its implementation. The structure scenarios will be based upon priorities established by a qualified Atikamekw authority. The results from this research and the lessons learned during our field meetings will also be integrated into these scenarios.

One of the entities within the land-use planning structure will be a team whose mandate is to carry out and implement a strategic environmental assessment procedure.

8.2.2 Establishing a strategic environmental assessment procedure

The strategic environmental assessment includes four steps: development, execution, validation and implementation.

Development includes completing a land-use assessment according to Atikamekw values, reflecting upon the issues, creating action scenarios and structuring issues as criteria.

The execution phase includes three steps: analyzing effects, assessment sensitivity and intensity and assessing scenarios.

The validation phase aims to integrate the values of the stakeholders involved in the decision-making process by determining thresholds and evaluating criteria in order to test the ruggedness of the classification scenarios within a multi-stakeholder environment. Finally, the last step involves developing a report on the implementation of the strategic environmental assessment procedure, supported by a permanent structure within the Nation.

Tools that help integrate knowledge into the impact procedures are also being developed by the Nation.

8.2.3 Training to build capacities

Building Atikamekw capacities within the field of land-use management is made possible by mastering management tools. As such, training sessions will be organized in order to increase the understanding of the procedure and the steps to carrying out environmental assessment activities by and for the Nation.

8.2.4 Collaboration

Once the Nation believes the structure is consolidated, that the procedure has been adopted and that some tools have been developed, linking it with government authorities may begin within an adaptive process.

Throughout the implementation of the strategic environmental assessment procedure, we will pay a certain level of attention to developing tools. The tools must meet the following criteria:

- Involve Aboriginals in a meaningful way as decision-making authorities within the territory, while taking into account the linkages required between the Nation and community levels
- Be supported by Aboriginal and scientific knowledge
- Protect confidentiality
- Be flexible and applicable to different ecosystems, cultures and land development situations

8.3 **Toward a typical process**

8.3.1 Proposed process

Rather than create a “typical” process, whose strictness would run the risk of ignoring the complexity of reality, we suggest a flexible and adaptable approach inspired by theoretical works on environmental assessment and adaptive co-management. Experiments in the literature and from our field work also provided us with key elements to complete this process. Its adaptability is essential to efficient and sustainable linking of Aboriginal participation in environmental assessment procedures. As such, the steps described here aim to increase meaningful Aboriginal participation. As previously mentioned, the following principles must be in effect for meaningful Aboriginal participation in environmental assessment processes:

- Participation in upstream decisions
- Clear communication and collaboration
- Meaningful consultation and consideration in the decisions
- Integrating Aboriginal perspectives in the process
- Involves capacity building

Meaningful Nation and Aboriginal participation is limited by a certain number of elements, as mentioned here by ICLD (2009):

“However, the use of standards for meaningful participation (Winds and Voices Environmental Services, 2000), the

exclusivity of the federal government in problematic project decision-making for Aboriginals, the limited potential to build a relationship as a result of a lack of communication and cooperation, and the lack of a practical definition of sustainable development are all proof that that definitions cannot be extended to Aboriginal communities” (ICLD, 2009).

As such, it is necessary to rethink the definition of the term “environment” in order to include the social and cultural spheres, for example. In fact, currently, the definition of “environment” in the *Canadian Environmental Assessment Act* does not include an overall vision and complement what the environment includes (see box 8.1).

Box 8.1 *Canadian Act on Environmental Assessment* (abstract)

“environment” - Components of the earth, including:

- a) air, land, water, all layers of the atmosphere;
- b) all organic and inorganic matter and living organisms;
- c) all interacting natural systems. This includes both unmanaged and managed ecosystems.

Figure 8.4 represents the endogenous planning procedure proposed within a context of adaptive co-management.

Système d'évaluation environnementale

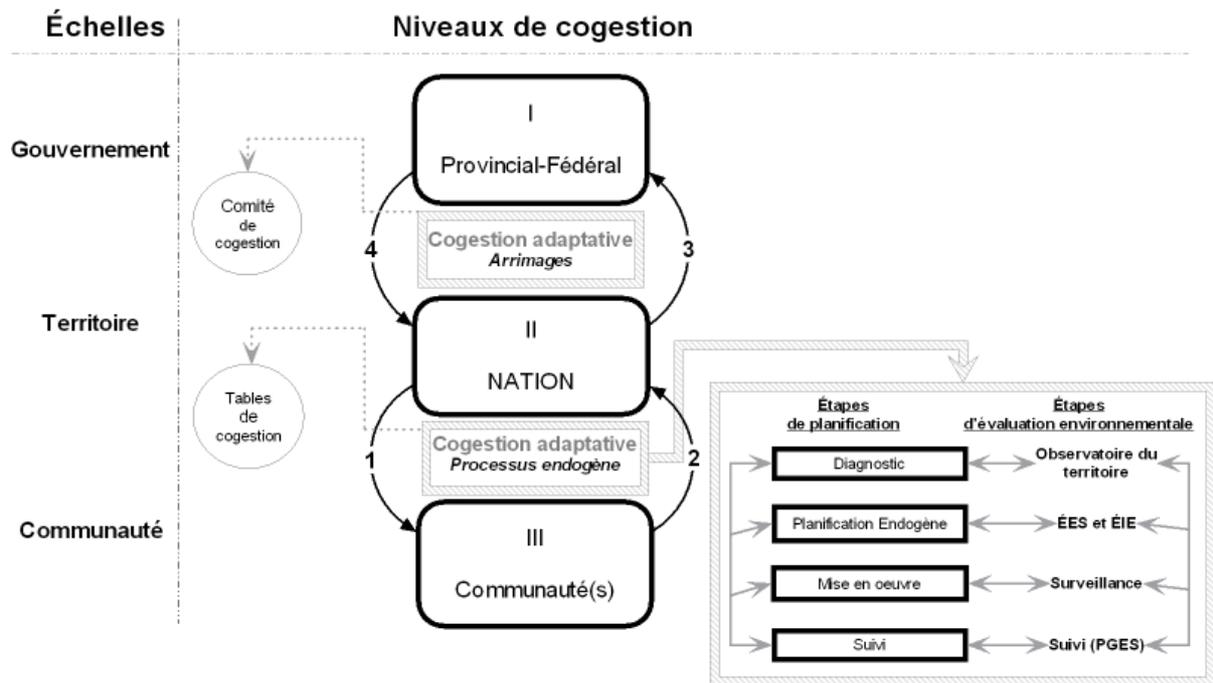


Figure 8.4 Endogenous planning procedure proposed within the context of adaptive co-management

8.3.2 Endogenous process

The endogenous process is a prerequisite for the success of this adaptive co-management framework. A large plan for this process will be carried out in the future within this section that will enable us to more completely describe its dimensions and steps.

8.3.3 Different levels

Levels I, II and III of the diagram represent the potential starting points for decisions. If decisions are made at the government level (1), the traditional top-down diagram is maintained. The Nations must then react to the decisions that are imposed upon them.

If decisions are made at the community level (III), potential differences and disagreements run the risk of dividing the Nation. There will therefore be gaps in collaboration and in the coherence of decisions.

The central element of this system is therefore the Nation (II), which carries the endogenous process. It is crucial that the Nation initially determines its priorities, vision and objectives in order to be proactive and a “leader” of its own development. In the past, Nations have had to react to decisions that concern them. To avoid this, the endogenous process in an adaptive co-management context should be led by this entity. However, it is of the utmost importance that communities be directly involved and that they can carry out their own procedures. The adaptive procedure should enable them to include community priorities at the Nation level (arrow 2).

Finally, the endogenous process requires the building and the support of technical, financial and human resources in order to be successful.

8.3.4 The direction and the order of planning steps (arrows)

In an ideal context, the order of the arrows in the diagram would be respected and the Nation would be at the heart of the endogenous planning and would act as a privileged interlocutor between the various levels. Steps 1 and 2 of the co-management process (represented by arrow 1 and 2) therefore stand at the territory and community level. This endogenous planning can be facilitated by co-management tables with specific mandates such as fishing, hunting, health and education (see co-management tables).

Co-management steps 3 and 4 (arrows 3 and 4) represent the territory and governments. This refers to the interface between the Nation and the other government authorities involved (federal, provincial, etc). The co-management committee is the decision-making body in charge of choosing the linkages between the various authorities.

8.3.5 The co-management committee

The co-management committee stands at the government level since it represents the discussion interface between Aboriginal Nations and the federal and provincial governments. It is the supervisory body and strategy-wise it ensures the process proceeds smoothly until it is completed, even if conflicts occur between the parties. The committee is therefore accountable for decisions made jointly and fairly between the governments.

The number of members in this committee varies according to the size of the Nation and of the territory. Its membership and its decision-making method will have to be negotiated between the parties. The committee will have to include members from all

parties involved: members of the Aboriginal Nations, the provincial government, the federal government as well as any other party involved, each having a certain number of votes. Each member is paid either by their own group (government, etc.), or with the budget of the independently-managed committee. The budget is created to manage processes such as: conflict resolution mechanisms, decision-making, sub-committees mandated for specific questions, etc. In certain cases, these sub-mandates may be established parallel to the process to ensure they do not delay it. Although this committee cannot do everything, it will remain the authority in charge.

The committee's legitimacy must be recognized, on account of its representation mode, so that decision-making is not contested and the system process can be concluded without potential conflicts between the parties affecting it.

Let's not forget that mutual trust and the relation between players are very important when dealing with adaptive co-management. Many authors have stressed that a lack of trust was a barrier to working out a collaboration agreement (Baland and Platteau, 1996). Some authors like Quaile and Smith (1997) have emphasized the lack of trust of the First Nations toward the Canadian government as well as industries. This is why it is important to respect the social dynamic, allocating enough time to build a relationship between all the parties involved in the co-management process.

“co-management presupposes that parties have, in a formal or semi-formal way, agreed on a process for sharing management rights and responsibilities. But getting to co-management involves institution building, the development of trust and social capital, and generally a long voyage on a bumpy road. co-management emerges out of extensive deliberation and negotiation, and the actual arrangement itself evolves over time.” (Berkes, 2009)

In order to facilitate collaborative work between parties, the adaptive co-management process should first focus on small issues, then focus on more complex issues. This allows for the working out of a common knowledge base and the gaining of a mutual trust. The other essential aspect relates to institutions. Characteristics such as flexibility and multi-level governance increase the number of interactions between institutions and stakeholders (Folke et al., 2002; Kooiman et al., 2005).

According to Berkes (2009), combining local and scientific knowledge can be facilitated by creating bridges between organizations thus creating a negotiation space for the coproduction of knowledge, establishing trust, cooperation and conflict resolution. This is not always obvious, due to the mistrust of government officials for community knowledge which is hard to verbalize (Reid et al., 2006). Finally, especially when Aboriginal groups are involved, this knowledge emerges from very different visions of the world. (Berkes, 2008)

Berkes (2009) highlighted a few strategies brought up by various authors to create bridges between organizations in order to facilitate co-management. Here are some of these strategies:

- incorporating multiple knowledge systems
- the co-production of knowledge
- the distribution of fair power
- collaborative monitoring
- participative research
- the participative construction of scenarios
- cooperation construction tactics (such as ensuring a presence, maintaining regular contact, etc.) and
- the implementation of accountability mechanisms

8.3.6 Adaptive co-management tables

These tables are discussion, presentation, and consultation forums that guarantee that every Aboriginal party is involved and supports the process. The Nation and the communities are actively involved in these tables, which are adapted according to needs. These tables make decisions for their specific fields.

8.4 Detailing the endogenous process

When dealing with adaptive co-management, the endogenous process can be divided into several steps, each of them corresponding to an element in the environmental assessment.

8.4.1 Levels of methodology

The levels of methodology are based on three levels of analysis that can be found in Leduc et coll. (2007). Rather than referring to action time phasing to define the elements in the methodology that are essential for an environmental assessment, the authors refer to three levels of analysis: the political level, the technical level and the scientific level. Within the context of this “classic process”, they must transcend all levels of the environmental assessment system and therefore apply to all elements.

The political level is used in the wider sense of the stakeholder system. It represents all the power relations in the society and encompasses the social, cultural, economic, administrative and political aspects of all stakeholders in the society as well as involvements they have with the management of public matters.

At this level, having a real political willingness to integrate Aboriginal aspirations into the process is required. This includes their significant participation in identifying the matter being studied, i.e., means, mandates and resources.

The technical level refers essentially to the technical stage of the environmental assessment, which is usually condensed in impact assessments. The attitude of cooperation which creates a balance between the use of Aboriginal knowledge and scientific knowledge is favoured when project promoters go on the site to propose a project in cooperation with the communities directly affected. It includes processes, procedures and the best tools for this project.

Finally, the scientific level refers to knowledge and sciences involved in identifying, predicting and assessing a project's impacts. In our world, which is dominated by a Western structure and by scientific knowledge, it is difficult to give room to, and especially to give credibility to other forms of knowledge.

The scientific level of the methodology is greatly tinged with subjectivity. Both in the quantification and qualification, in spatial-temporal aspects and reference areas, the individuals involved largely determine the outcomes. Experts' value judgments are implicit, numerous and different, which is why it is necessary to have a co-management committee to "neutralize" power relationships and ensure that the process is as fair as possible.

8.4.2 Making a diagnosis for better planning

The preliminary step in any process is making a "diagnosis" of the current situation. To do so, some questions must be asked. These questions don't have to be answered in a strict way as we would do with a checklist, but they must be seen as open-ended questions that allow for creative reflection and that create a dialogue between the various parties in the co-management committee.

This diagnosis may be repeated before each critical step of the process in order to make sure that all parties still agree with the chosen process. This feedback is an iterative process in which decision-making is shared. Faced with Aboriginal and non-Aboriginal stakeholder, references, values, perceptions and explanations are different. Differing visions can be reconciled through dialogue. It represents a starting point to create relations, to collaborate and to discuss each party's viewpoints.

Table 8.1 is a non-exhaustive list of relevant questions for consideration.

PRELIMINARY QUESTIONS FOR THE PROCESS
<p>What groups are present? What ministries and groups are involved? What Aboriginal groups are involved? If there is more than one, how do they get along? What did they experience with the environmental authorities? Are the environmental authorities really open to cooperation with Aboriginals? Is the promoted philosophy to actually cooperate with Aboriginal peoples? How is the environment viewed? When in the process is consultation scheduled? What form does it take? Is it significant? What is the co-management framework? From Nation to Nation? Is planning led by the Nation/the Aboriginal people? Are certain rights being ignored? Are there ongoing claims? Is it a traditional territory? Have Aboriginals already started planning their territory? Has the Nation kept its traditional governance? Is there a capacity-building program for a long-term vision? Are there trustworthy exterior stakeholders as well as networks working with the Nation? Is the Nation's confidence level high? Has a balance between scientific knowledge and Aboriginal knowledge been reached? What can be done to reach this balance? Has the Nation developed other tools (maps, toponymy, etc.)? Is the Aboriginal viewpoint taken into account when a link between activity-effect-impact is made in the impact assessment? - Do the Aboriginals have veto power over the project? Are the social impacts being considered as much as impacts on the biophysical environment? Are mitigation measures being backed up (legally or otherwise) in order to be respected? Is the environmental assessment carried out independently of the decision-making authority? Is the Aboriginal nation involved in a monitoring and follow-up program? Are results from this program being communicated in order to apply the necessary changes when problems occur? Do tools exist to follow up on cumulative impacts?</p>

Table 8.1 Questions for implementing a planning process

8.4.3 Observing the territory

To implement an environmental assessment and planning system, the diagnosis requires having data on the territory, resources and the environment in its broader sense (including all social aspects). All these data can be managed in a territory-based observatory. They can be maps, field observations, inquiries, traditions or any other element deemed necessary by Aboriginals.

8.4.4 Endogenous planning

Planning includes the strategic environmental assessment (SEA), which has to do with policies, plans and programs. As far as designing a project on their territory is concerned, planning includes an environmental impact assessment (EIA) of projects.

8.4.5 Implementation

Once the planning stage is done, the next step is the implementation on the territory and the monitoring of activities. Planning implementation requires the cooperation of all parties. Goals stated by the Nation should be achieved with adaptable means, if necessary.

8.4.6 The follow-up

The follow-up is done with the social and environmental management program (SEMP). It is essential that it be done after each stage of the process in order to keep the adaptive and iterative nature of the approach. Such an environmental assessment activity, when done cooperatively, has a strong potential for creating bridges between people and organizations (Berkes, 2009).

8.4.7 An environment management strategy according to the Assembly of First Nations

The following diagram explains the vision of the Assembly of First Nations regarding the working out of an environment management strategy (Assembly of First Nations, 2005). The document states that Aboriginals must exercise their “power as regards environment management” (APN, 2005: p.2) and that each “process (...) must be founded on the principle of self-determination and be based on First Nations culture,” terms which correspond to our perception of the endogenous process. The following diagram represents their vision as described by this action plan:

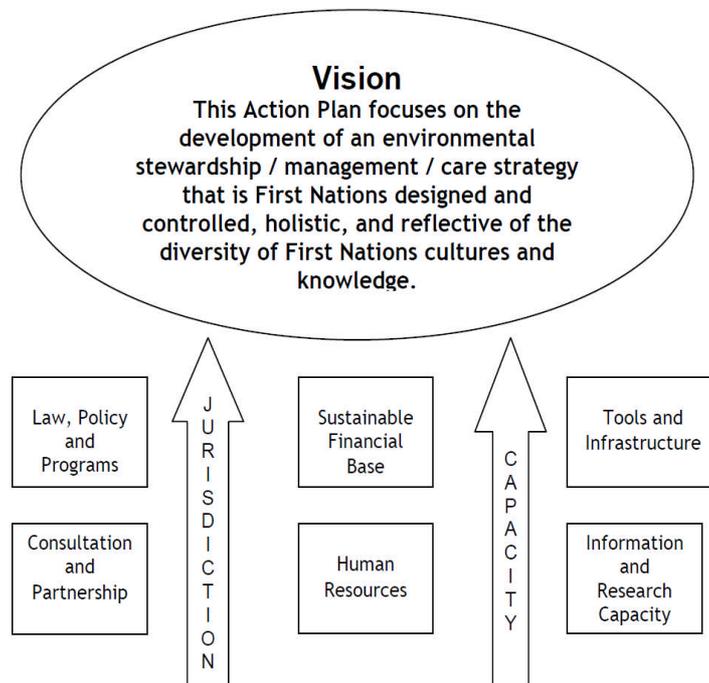


Figure 8.5 First Nations' viewpoint on the action plan on environmental management (Assembly of First Nations, 2005).

9. RECOMMENDATIONS

These recommendations are the result of our analysis of the literature, case studies, and missions in the field. These recommendations should be seen as a whole and not used individually. These recommendations were classified according to the three in-depth aspects used during our research, i.e., endogenous planning, a balance between Aboriginal knowledge and scientific knowledge and procedures linkages. Many recommendations could be found in any of these categories. In fact, what is important is not to put them in a specific category but to apply them.

9.1 Recommendations linked to legislation

During our field research, we have visited three locations with three different ways of looking at the environmental assessment legislation.

Regarding the environmental assessment in Inuvialuit, the joint committees, as well as the structure representing and taking into account the Inuvialuit interests, seem to

ensure a satisfactory balance locally. Upon the signing of the Convention, the Inuvialuit have clearly stated their intention to protect their lifestyle and their culture, but to participate in the regional political decisions as well. The co-management structure was introduced with this approach in mind. The resources ensuring proper operation of such committees are not always divided equally between Inuvialuit and governments (experts, technical and financial resources, etc.). Despite this criticism, the Inuvialuit are satisfied with the environmental assessment procedure which protects their initial will.

The Pikangikum Nation has worked with the Ontario Ministry of Natural Resources to modify the current impact assessment process. Therefore, it is a legal adaptation, at the provincial level, that was discussed with local authorities. The Nation is fully satisfied with this agreement which allows them to accelerate the economic development process. Going through the entire procedure again would have required long processes and training examining committees. This approach seemed tedious and unnecessary for the Nation. Elders said that going forward was urgent. To do so, the current impact assessment process needed to be modified to find a balance between their knowledge and the scientific knowledge on which the process was based. Long discussions took place with the local authorities producing an agreement and a process both parties could agree on.

In the case of Yukon, the *Canadian Environmental Assessment Act* was excluded from the territory when the global "Umbrella Final Agreement" was signed. The agreement made it possible to define the major pillars of what environmental assessment would be in the territory. Then, the federal government, the territorial government and the First Nations discussed the implementation. Excluding the *Canadian Environmental Assessment Act* provided an obvious solution by having three government authorities for a single territory. The creation of an independent and autonomous organization in charge of making recommendations is the key to this new agreement. A few problems remain and have been identified: the Nations have little decision-making power regarding their territory, the mitigation measures that were proposed cannot be legally enforced, especially when considering the social impacts. These flaws should be corrected in the longer or shorter term, considering a review process has been implemented this year after the first five years of implementation of the new YESAA (*Yukon Environmental Socio-Economic Assessment Act*). The exclusion of the CEAA in the YESAA is not mentioned per se. Although legitimate for a territory, there may be better-adapted ways in certain cases to manage double legislation. This should be discussed with the Nations involved.

9.2 Recommendations linked to endogenous planning

This involves reinforcing Aboriginal capacities to increase their participation in bodies and structures.

Within the context of intercultural cooperation and the context of environmental assessment, it is important to use the *bottom-up* approach, “which encourages learning and the transmission of Aboriginal knowledge to communities” (Ellis, 2005).

Furthermore, it might be wise to adopt a philosophy and to implement implementation mechanisms that would encourage the Aboriginals to take the initiative. Institutions should be flexible to co-create and bring about this type of initiatives. This might mean giving Aboriginals the means to carry out and to implement their own strategical environmental assessment on their territory while combining this planning with the adjoining institutional process. This flexibility must be sufficient to allow Aboriginal peoples to adapt the process to their culture and local customs.

When implementing new planning processes, it might be a good idea to harmonize financing cycles with those of the processes so there are no gaps or delays in their progress.

The final objective is to find a balance between the recognition of traditional knowledge and decision-making in order to give decision-making power to Aboriginals and to be better informed about sustainable practices in environmental assessment. We have discussed at length in section 5.2 the tools available for that matter, such as implementing criteria and indicators or a usage-based policy. This list is not exhaustive and the most important thing is that all stakeholders agree with their use.

In the end, changes to the legislation are very likely in order to give effective control of the environmental assessment process to Aboriginals.

9.3 Recommendations linked to the balance between the different branches of knowledge

As mentioned above, these recommendations are again to be taken as a whole. They are expressed around the fact that there exist several forms of knowledge and that it is necessary to be able to use them all in order to have the fullest possible perception of reality. Aboriginal knowledge is as relevant as western knowledge, and it is preferable to put them together.

First, in terms of processes, it is important to create bridges between the different authorities at the local scale in order to encourage frequent face to face relations and clear communication. These bridges might be, for example, the setting up of the physical offices of federal authorities in Aboriginal communities.

These relationships could also be improved by developing cooperation upstream in the environmental assessment process in order to facilitate mutual training and implementing follow-up mechanisms for the processes, such as they are defined.

Next, concerning the Aboriginals themselves, it would be beneficial to train, sponsor and set up a system of mentors for the Aboriginals to help them to better understand various activities such as monitoring, follow-up, as well as the federal context, for example (job creation). Furthermore, the elderly are the traditional leaders within Aboriginal groups, and it is essential to involve them in the process, as much as is possible and is necessary.

One of the key elements is to inform and create opportunities for bringing together populations on the stakes and responsibilities of each person to dispel misconceptions and to spread positive initiatives.

Finally, we must bank on relations oriented toward the future and the great challenges linked to globalization of exchanges and markets. To encourage business opportunities as follows:

“In the political realm, we must develop relations and attitudes, of course, according to the rights of the parties, but also based on the values of respect, sharing and mutual aid. Our political maturity to establish relations based on the cohabitation of our respective nations and peoples, on a territory that has become common. There will be no denial of history or of toponymy.” (Kurtness, 2006).

9.4 Recommendations on linking procedures

These recommendations focus specifically on ways to improve ties between the various levels of governance. Numerous procedures exist, but they tend to conflict rather than complement one another. Being able to homogenize them as a whole is paramount to facilitating comprehension, costs and deadline extensions.

The government authorities should hire people who are willing to work with Aboriginals. They should also provide training for those people who are willing to work with them but who don't have the adequate tools to do so. The necessary resources should be set in place to guarantee the effective participation of Aboriginals in environmental assessment procedures.

As far as procedures are concerned, and knowing the importance of the time factor, appointing people to longer mandates would considerably improve continuity. By the same token, instituting management continuity mechanisms to create an institutional memory and guarantee that files remain processed appropriately despite changes to who is in charge.

If we take all procedures into account, establishing rules for deliberation and decision-making could improve equity between co-management agreements.

Beyond procedures, it would be important to promote organizational values, to formalize them through tools such as a code of ethics. Ensuring transparent negotiation, information, consultation and communication processes would also be required.

Boxes 9.1 and 9.2 are excerpts from theses written by Aboriginals that give an accurate representation of the current situation regarding linkages in various environmental assessment procedures within the context of planning and development as well as sustainable development.

Box 9.1 (Excerpt) Specific Consultations of Public Hearing, *Commission de l'économie et du travail* (Assembly of First Nations of Quebec and Labrador), p.2

The real answer of the First Nations to the project of the new forest regime is “co-management”, or more concretely, “co-elaboration” of the standards between the government of Quebec and the First Nations in question, as regards the concerned territories. A regional table, no matter what form it takes, could never take into account the rights and titles of the First Nations in the management of resources.

Box 9.2 (Excerpt) Brief on the sustainable development strategy at the *Commission des transports et de l'environnement* (Assembly of First Nations of Quebec and Labrador)

In the recent Haida decision, the Supreme Court further clarified its position. It established a distinction between the legal situation that prevails before and after definitive proof of a title before the court. Before definitive proof, if the title is likely and credible, there is an obligation to substantially accommodate the concerns of the First Nation in question. This is the case for most First Nations in Quebec. (...)

First Nations clearly have the right to require that any substantial alteration to their title be the subject of a negotiated agreement, and that a form of upstream management of decision-making related to the management of the territory be implemented. This must be the case. For example, before a Timber Supply and Forest Management Agreement (TSFMA) is issued, authorization is given to build a dam or any other natural resource development project is undertaken. A simple invitation to participate in a consultation activity organized for all Quebec residents cannot be considered an adequate consultation. A specific consultation must be carried out with First Nations

and the means to do so must be provided by the government of Quebec. The adoption of a policy or government strategy such as the one concerning sustainable development is not absolved from the obligation to consult and accommodate aboriginal peoples.

10. CONCLUSION

The environmental assessment procedures are effective decision tools **if**:

- *Stakeholders have their respective places*
- *The real issues are deliberated*
- *The appropriate (consultation, decision-making) mechanisms are implemented*

In an intercultural context, the adaptive approach allows to structure the process of combining different visions of the world while remaining flexible and inclusive. We found in the literature and in the field that planning which includes strategic environmental assessment allows indigenous peoples or a nation to develop a territorial view. It is an important prerequisite for adaptive co-management. *To conduct a planning process, the issue of capacity (human and financial) is crucial. Important questions must be asked at the beginning of this "progress" of the Nation:*

How is our governance organized? What are our priorities? On what values will we base our future choices? How will we ensure the economic development of our people? How can we preserve our culture?

The answers to these questions are in fact, choices which should be based on their needs and aspirations first.

Subsequently, adaptive co-management is a process that can work effectively and gradually on these issues. The development of a diagnostic 'negotiated' by the different parties is a starting point that requires having discussions to reach a balance between different visions. The advantages of this approach far outweigh the drawbacks associated with increased costs and time required.

Indeed, the imposition of certain linking mechanisms between the approaches and the environmental assessment procedures would increase discontent, and ultimately, could block the process. Moreover, the willingness to step forward, participation in upstream and co-development would be crucial in this approach. The subsequent relationship of trust that is established is truly positive for, among others, positive economic benefits, more harmonious relationships, reduced social problems and more positive impacts on the environment and biodiversity.

Trust between the parties involved is built over the experience through practice. It makes work easier and allows for true collaboration. This requires time, resources, willingness to work together and compromises among the various parties involved. This trusting relationship is gradually being consolidated but can be lost quickly. Maintaining discussions and adaptation are certainly key elements in satisfactory linkages for the parties involved.

APPENDIX 1 FIELD WORK

Persons occupying various roles in organizations were met. Administrators, decision-makers then technicians involved in the authorities or committees established for the management of natural resources, the environmental evaluation and the planning were questioned. To increase the understanding and roles of the persons in organizations, the participants were classified as follows:

Decision-makers (D): have a decision-making power

Administrators (A): manage a program, a project or coordinate certain stages of the environmental evaluation

Technicians (T): have a role of collecting information, documentation, collecting data, following up and monitoring.

It is important to specify that several ways were able to interfere within the framework of this research. The fact of questioning within the framework of research where certain targeted subjects are to be questioned is a potential way. Accordingly, the sample of met people is not inevitably significant. Furthermore, the mother tongue was not the same between the interviewers and those questioned. During the transcription of the recorded interviews, we tried to remain as faithful as possible to the comments of people asked. The recorder has allowed us to remain faithful to the comments of the interlocutors in the case of English. However, for some, neither French nor English was spoken.

The intercultural character of the project for this research in general was also a source of continual adjustments and a clear communication was necessary.

Pikangikum Nation

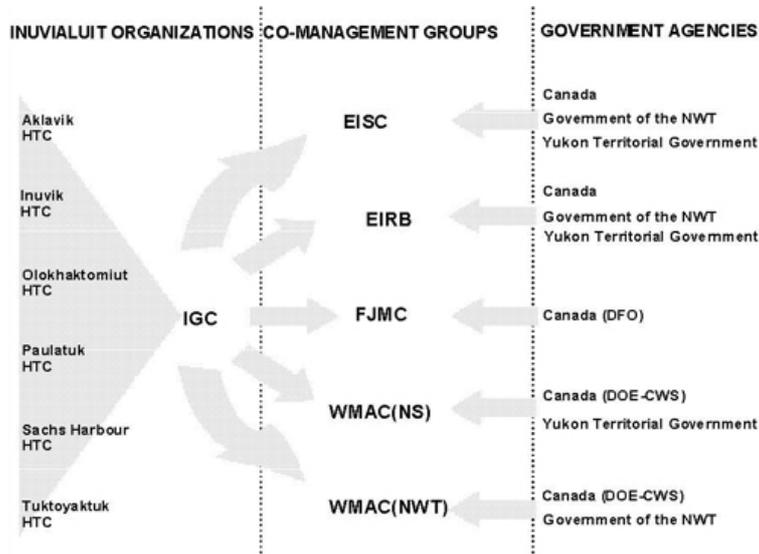
During the visit to the Pikangikum Nation, we spent time with a group of elders having led and managed the strategy of planning "Keeping the land" (to see the Whitefeather Forest initiative site, go to [http:// www.whitefeatherforest.com/](http://www.whitefeatherforest.com/)). We also met technicians of the Whitefeather Forest Corporation as well as the members of the Pikangikum Nation. Our mission team also discussed with staff members of the Ontario Ministry of Natural Resources, Red Lake district, working in close cooperation with the Nation.



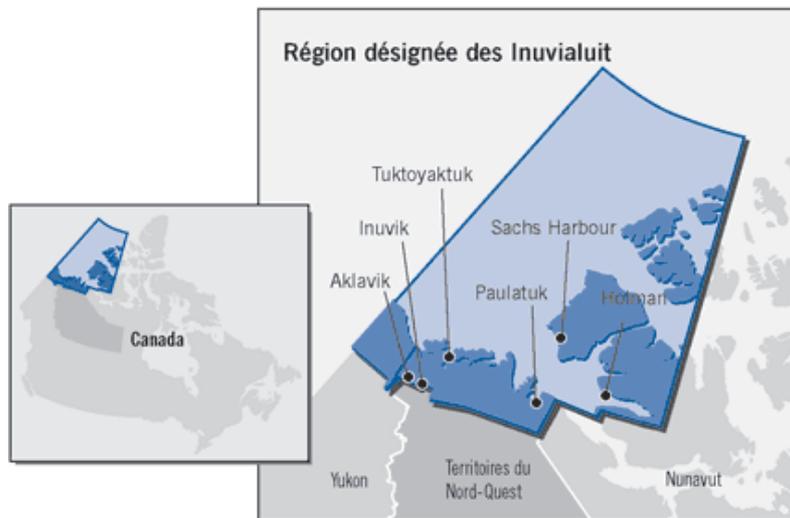
Source: Pikangikum First Nation (2006)

Inuvialuit

In Inuvialuit, the structure of joint management was established further to the signature of the definitive Inuvialuit Agreement concluded in 1984. We met persons there working on the committees which form the joint management structure (occupying the central position in the following figure) then of the IGC (Inuvialuit Game Council) and hunters and trappers committee. We also met with staff of the Inuvialuit Land Corporation, the body in charge of managing the private and public lands on the territory covered by the Agreement.



Source: Environmental screening committee (2004)



Source: Canada, Office of the Auditor General of Canada (2007)

Yukon

Finally during our stop in Yukon, we met staff members of the Executive Board of the Yukon Environmental and Socio-Economic Assessment Board. We also talked with members of the Ta'an Kwach'an Nation. Finally, we also completed semi-managed interviews with certain members of the council of the First Nations of Yukon, the Assembly of the First Nations of Yukon as well as certain staff members of the

List of the participants in the interviews

LOCATION	NAME OF ORGANIZATIONS MET	CATEGORY OF STAKEHOLDERS	CODE
Ontario (O)	<ul style="list-style-type: none"> • Whitefeather Forest Management Corporation • Pikangikum Nation • Ontario Ministry of Natural Resources 	T	O-1
		T	O-2
		T	O-3
		TD	O-4
		TD	O-5
		TD	O-6
		TD	O-7
		TD	O-8
		TA	O-9
		TA	O-10
Inuvialuit (I)	<ul style="list-style-type: none"> • Inuvialuit Game Council (IGC) • Environmental Impact Screening Committee • Environmental Impact Review Board • Fisheries Joint Management Committee (FJMC) • Wildlife Management Advisory Council (WMAC) • Hunters and Trappers Committees • Inuvialuit Land Corporation 	TA	I-1
		TA	I-2
		TA	I-3
		T	I-4
		T	I-5
		TA	I-6
		D	I-7
		T	I-8

Yukon (Y)	• Ta'an Kwach'an Council	D	Y-1
	• Assembly of First Nations	T	Y-2
	• Council of Yukon First Nations	D	Y-3
	• Executive Council Office: Land Claims and Implementation	A	Y-4
	• Yukon Environmental and Socio-economic Assessment Board	A	Y-5
		A	Y-6
		A	Y-7
		A	Y-8
		A	Y-9
		A	Y-10
		A	Y-11

APPENDIX 2 SAMPLE QUESTIONNAIRE

I am a researcher at GEIGER ([Groupe d'études interdisciplinaires en géographie et environnement régional](#)) and also a master's student in geography at Université du Québec à Montréal. This research is in partnership with the Atikamekw First Nation Council (AFNC). Annie Neashish is a lawyer for the Nation.

We are visiting three First Nation's organizations across Canada in order to learn about how they set up their territorial and environmental planning. It aims to improve environmental assessment in an Aboriginal context and will help the Atikamekw First Nation to set up its own land use planning and environmental assessment procedure. Following this research, a report will be written for the AFNC and for the Canadian Environmental Assessment Agency. If you wish to limit the sharing of some information, please let me know.

The results will also be used for my master's thesis.

(Signature of the consent form)

There are 3 sections to this interview:

1) Land use planning

2) Impact assessment, more precisely on how to join Aboriginal and scientific knowledge

3) Co-management and interfaces between native and governmental procedures for environmental assessment

SECTION 1- Land use planning

1. Did you participate in the process of land use planning? What role did you play in it?

2. What were the previous steps that led to the land use planning? In which steps did you participate?
3. Do you have the feeling that you influenced, participated in the decision?
4. In your opinion, does the completed planning reflect the values, the concerns (preoccupations) and aspirations of the Nation?
5. Tell me briefly about claims on the territory and how the developed planning answers them?
6. a) If you could change certain aspects of this territorial planning, which ones would they be?
b) And what aspects would be particularly positive?
7. *Introduction: governance chart:*
How was this structure determined? Who was involved and how? The leaders? The elders? The young people? The population in general? Researchers? The government?
8. Did the population verify it? If yes, how?

SECTION 2- Impact assessment; union between native and scientific knowledge

9. Does the Nation possess its own methods of evaluation, monitoring and follow-up? If yes, what tools are used?
10. In the impacts assessment process:
 - a) How do we take native knowledge into account?
 - b) Is the native knowledge used on the same level as the scientific knowledge?
 - c) At which steps of the impacts assessment process are they used?
 - d) In your opinion, is it sufficient?

SECTION 3- Co-management and the interfaces between native and governmental procedures for environmental assessment

Introduction on the legal and statutory framework currently in place:

- 1) In Pikangikum (Ontario), the Canadian Environmental Assessment Act is still current but the Nation developed an EIA which is more appropriate for them*
- 2) In Yukon, the Canadian Environmental Assessment Act is not in effect and they developed their own regulations and organizations*
- 3) In Inuvialuit, it is a mixed federal - Inuvialuit process*

11. What are the main advantages/disadvantages of your institutional framework? Explain.
12. In the environmental assessment currently used on your territory, what are the positive and negative elements of this process, concerning the stages, the stakeholders involved, the roles of the authorities, functioning and the decisions made?
13. Do you take part in a co-management committee?
14. Would you say that you are:
1) Satisfied 2) more or less satisfied 3) dissatisfied
with the co-management committee? Explain.
15. How would you describe the trust level that prevails within the members of the co-management committee?
16. Were you well-prepared to participate in co-management? Was there any capacity building program to help you improve your participation?

Thank you very much for your time!

Bibliography

Agrawal, A. and M. C. Lemos. "A Greener Revolution in the Making? Environmental Governance in the 21st Century," *Environment*, volume 49 no 5, (June 2007).

Agrawal, A. And C. Gibson. "Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation" (1999), *World Development*, 27, 4, p. 629-649.

ANZECC. *A National Approach to Environmental Impact Assessment in Australia*, Australian and New Zealand Environment and Conservation Council, September 1991; and Background Paper, Canberra (October 1991).

ANZECC. *Basis for a National Agreement on Environmental Impact Assessment*, Australian and New Zealand Environment and Conservation Council (June 1997) Canberra.

Archipelago Management Board. *Gwaii Haanas National Park Reserve and Haida Heritage Site Management Plan for the Terrestrial Area*, 1993, 37 pages.

Armitage, D. "Collaborative Environmental Assessment in the Northwest Territories, Canada." *Environmental Impact Assessment Review*. 25 (2005): 239-258.

Armitage, D., Berkes, F., and Doubleday, N. (Eds.). *Adaptive co-management: Collaboration, Learning, and Multi-level Governance*. University of British Columbia Press, Vancouver, 2007.

Arnstein, S.R. "A Ladder of Citizen Participation", *American Institute of Planning Journal* (1969), 35, 2, p.216-224.

Baker, D. and J. McLelland. "Evaluating the Effectiveness of British Columbia's Environmental Assessment Process for First Nations' Participation in Mining Development". *Environmental Impact Assessment Review*. 23 (2003): 581-603.

Baland, J-M and Paltteau, J-P. *Halting the Degradation of Natural Resources. Is There a Role for Rural Communities?* Oxford, Clarendon Press, 1996.

Bardin, L. "L'analyse de contenu" (1991). Presses Universitaires de France. 291 p.

Berkes, F. "Evolution of co-management: Role of Knowledge Generation, Bridging Organizations and Social Learning," *Journal of Environmental Management*, (2009), doi:10.1016/j.jenvman.2008.12.001.

Berkes, F., George, P and R. J. Preston. "co-management: The Evolution in Theory and Practice of the Joint Administration of Living Resources," (1991), *Alternatives*, 18, 2, p.12 – 18.

Brown A.L. and R. Thérivel. "Principles to Guide the Development of Strategic Environmental Assessment Methodology," *Impact Assessment and Project Appraisal*. 18, 3 (2000): 183-189.

Campbell, T. and H. Treacy. Focus on Aboriginal Law: Two Groundbreaking Cases Provide Welcome Guidance. *Mining Review* (2005). Spring 2005. Available online, URL: http://www.fmc-law.com/upload/en/publications/20052006/1083664_Article_Focus_on_Aboriginal_Law_Two_Groundbreaking_Campbell_Treacy_Mining_Review.pdf

Centre for Indigenous Environmental Resources (CIER), *Meaningful Involvement of Aboriginal Peoples in Environmental Assessment*, March 2009.

Christensen, J. and M. Grant. "How Political Change Paved the Way for Indigenous Knowledge: The MacKenzie Valley Resource Management Act." *Arctic*. 60, 2 (2007): 115-123.

Couch, W. "Strategic Resolution of Policy, Environmental and Socio-Economic Impacts in Canadian Arctic Diamond Mining: BHP'S NWT Diamond Project." *Impact Assessment and Project Appraisal*. 20, 4 (2002): 265-278.

Davidson-Hunt, I.J. and O'flaherty, R.M. "Researchers, Indigenous Peoples and Pace-Based Learning Communities," *Society and Natural Resources*, (2007), 20, p. 291–305.

Devlin, J. F. and N. T. Yap. "Contentious Politics in Environmental Assessment: Blocked Projects and Winning Coalitions." *Environmental Impact Assessment Review*. 26,1, (2008): 17-27.

Donovan, D.G & R.K. Puri. Learning From Traditional Knowledge of Non-Timber Forest Products: Penan Banlui and the Autoecology of *Aquilaria* in Indonesian Borneo. *Ecology and Society* (2004) 9,3:3. URL: <http://www.ecologyandsociety.org/vol9/iss3/art3>

Ellis, S. C. "Meaningful Consideration? A Review of Traditional Knowledge in Environmental decision-making." *Arctic*. 58, 1 (2005); 66-77.

Emery, P. Guidelines: Integrating Indigenous Knowledge in Project Planning and Implementation (2000) World Bank, Canadian International Development Agency, KIVU Nature Inc.

Galbraith, L., B. Bradshar, and M. Rutherford. "Towards New Supreregulatory Approach to Environmental Assessment in Northern Canada," *Impact Assessment and Project Appraisal*. 25, 1 (2007): 27-41.

GEIGER (Groupe d'études interdisciplinaires en géographie et environnement régional). *Projet pilote de réalisation d'une évaluation environnementale stratégique par les Atikamekw*, juin 2005, Rapport final, Tomes 1 et 2, 280 pages

Hickey, C. And Nelson, M. *Partenariat entre les Premières nations et le secteur forestier : une enquête nationale*, Sustainable Forest Management Network, Edmonton, 34 p. 2005.

Holling, C.S. *Adaptive Environmental Assessment and Management*, Ed. C.S. Holling, United Nations Environmental Program, 377 pages, 1978.

Houde, N. 2007. "The Six Faces of Traditional Ecological Knowledge: Challenges and Opportunities for Canadian co-management Arrangements." *Ecology and Society* 12(2): 34. [online] URL: <http://www.ecologyandsociety.org/vol12/iss2/art34>

Jentoft, S. "Limits to Governability: Institutional Implications for Fisheries and Coastal Governance," *Marine Policy*, (2007), 31, p. 360–370.

Shearer, J., P. Peters and L. J. Davidson-Hunt. "Co-Producing a Whitefeather Forest Cultural Landscape Monitoring Framework," p. 63-84, in *Changing the Culture of Forestry in Canada*, Stevenson M. and D. Natcher, CCI Press and Sustainable Forest Management Network, 210 pages, 2009.

Johnson, G *et al.* "Stratégique". 8th Edition, Paris: Pearson Education France, 720 pages, 2008

Kooiman et al. (Eds.), *Fish for life: Interactive Governance for Fisheries*, Amsterdam University Press, Amsterdam, 2005.

Kwiatkowski, R. Tikhonov, C., McClymont, P. D. & C. Bourassa. "Canadian Indigenous Engagement and Capacity Building in Health Impact Assessment." *Environmental Impact Assessment Review*. 27,1 (2009): 57-67.

Lajoie, G. and M. A. Bouchard. "Native Involvement in Strategic Assessment of Natural Resource Development: the Example of the Crees Living in the Canadian Taiga." *Environmental Impact Assessment Review*. 24,3 (2006): 211-220.

Landry, V. And J-P Waaub. "Cas de cogestion adaptative". Internship report, Groupe d'études interdisciplinaires en géographie et en aménagement régional (GEIGER). (2008). Geography Department, UQAM.

Lane, M., Ross, B., Helen, A.P. Dale & R.E Roy. "Sacred Land, Mineral Wealth, and Biodiversity at Coronation Hill, Northern Australia: Indigenous Knowledge and SIA." *Impact Assessment and Project Appraisal*. 21, 2 (2003): 89-98.

LeBlanc, K.. *Évaluation de la participation des Cris dans la procédure d'évaluation environnementale de la Convention de la Baie James et du Nord québécois (CBJNQ)*, master's thesis, Université de Montréal, Geography Department, 2009.

LeBlanc, K and J-P Waaub. Outils d'évaluation environnementale visant à un équilibre entre les savoirs autochtones et scientifiques. Cahiers de recherche du GEIGER (2009). Geography Department, Université du Québec à Montréal.

Leduc, G. A. and M. Raymond. "L'évaluation des impacts environnementaux : un outil d'aide à la décision", Éditions MultiMondes, 403 p., 2000.

Maclean, B. "Criteria for the Inclusion of Indigenous Knowledge as a Credible Knowledge System in Canada" (Draft). Centre for Indigenous Environmental Resources (CIER), (August 16, 2006).

Michel, H. & D. Glayton. "Linking Indigenous' Knowledge and Western Science in Natural Resource Management: A dialogue." *B.C Journal of Ecosystems and Management*. 2, 2 (2002),
URL: <http://www.forrex.org/jem/2002/vol2/no2/art3.pdf>

Moller, H. *et al.* "Combining Science and Traditional Ecological Knowledge: Monitoring Populations for co-management. *Ecology and Society*. 9, 3 (2004) (online) URL: <http://www.ecologyandsociety.org/vol9/iss3/art2>

Morrisson-Saunders A. and G. Early. "What is Necessary to Ensure Natural Justice in Environmental Impact Assessment decision-making?" *Environmental Impact Assessment Review* 26, 1, (2008): 29-42.

Mulvihill, P. R. & D. C. Baker. "Ambitious and Restrictive Scoping: Case Studies from Northern Canada." *Environmental Impact Assessment Review*. 21 (2001): 363-384.

Natcher, D.C., Hickey, C.G. "Putting the Community Back into Community-Based Resource Management: A Criteria and Indicators Approach to Sustainability," *Human Organisation*, (winter 2002), 61(4): 350-363.

Natcher, D. C. *Seeing Beyond the Trees, the Social Dimensions of Aboriginal Forest Management*, Concord, Ontario: Captus Press 245 pages, 2008.

Natcher, D. C., Hickey, Clifford G.. "Criteria and Indicators Approach to Community Development," *Sustainable Forest Management Network*, working paper (2002-2),.

Nelson, H. "Alternative Tenure Approaches to Achieve Sustainable Forest Management: Lessons for Canada," *Sustainable Forest Management Network SFMN Synthesis Report*, (2008).

O'Faircheallaigh, C. "Effectiveness in Social Impact Assessment: Aboriginal Peoples and Resource Management in Australia." *Environmental Impact Assessment Review*. 27,2 (2009): 95-110.

Olsson, P., Folke, C. "Local Ecological Knowledge and Institutional Dynamics for Ecosystem Management: a Study of Lake Racken Watershed" *Sweden. Ecosystems*, (2001), 4, p.85–104.

Olsson, P. *et al.* "Adaptive co-management for Building Resilience in Social–Ecological Systems." (2004) *Environmental Management* 34, 75–90.

Ostrom, E. "A Diagnostic Approach For Going Beyond Panaceas," *Proceedings of the National Academy of Sciences*, (2007), 104, 15, p.181–187.

Paci, Chris, Tobin Ann and Peter Robb. "Reconsidering the Canadian Environmental Impact Assessment Act: A Place For Traditional Environmental Knowledge." *Environmental Impact Assessment Review*. 22 (2003): 111-127.

Pahl-wostl, C. and Hare, M. "Processes Of Social Learning In Integrated Resources Management," *Journal of Community and Applied Social Psychology*, (2004), 14, p.193–206.

Paillé, P. and A. Mucchielli. "L'analyse qualitative en sciences humaines et sociales" (2005). Armand Colin, 211 p.

Pinkerton, E., "Integrating Holism And Segmentalism: Overcoming Barriers To Adaptive co-management Between Management Agencies And Multi-Sector Bodies." *Adaptive co-management*, (2007), University of British Columbia Press, Vancouver, p. 151–171.

Pretty, J. Ward, H. *Social Capital and the Environment, World Development*, (2001), 29, 2, p. 209-227.

Quaile, G., P. Smith. "An Aboriginal Perspective on Canada's Progress Toward Meeting Its National Commitments to Improve Aboriginal Participation in Sustainable Forest Management." *XI World Forestry Conference*, (1997), 5, Topic 29, p.154 -161, Antalya, Turkey, Food and Agriculture Organisation of the United Nations.

Robinson, M. "Strengthening The Role Of Indigenous Peoples And Their Communities In The Context of Sustainable Development." *Sustainable forest management network*, Working Paper (1999-17).

Rodon, T. *En partenariat avec l'État, les expériences de cogestion des autochtones du Canada*. Les Presses de l'Université Laval, Québec, 2003, 81 pages

Ross, H., Innes J., George M., and Gorman K. (eds). "Traditional Owner Aspirations Towards Co-Operative Management of The Great Barrier Reef World Heritage Area: Community Case Studies." (2004), *CRC Reef Research Centre Technical Report No 56*. CRC Reef Research Centre, Townsville, Australia, p.4.

Ross, H. and Innes J. "A Framework For Designing Co-Operative Management for the Great Barrier Reef World Heritage Area." *Proceedings of International Association for the Study of Common Property Conference*, Oaxaca, Mexico, 9-13 August 2004.

Ross H. and Innes J. "A Framework For Designing Co-Operative Management for The Great Barrier Reef World Heritage Area." *Proceedings of International Association for the Study of Common Property Conference*, Oaxaca, Mexico, 9-13 August 2004.

Ross H., Robinson C. And Hockings M. "Evaluation of Indigenous co-management of Natural Resources," *Regional Natural Resource Management Planning: The Challenges of Evaluation As Seen Through Different Lenses*, 2005, The State of Queensland Department of Natural Resources and Mines, p. 51-58.

Roth, R. 2004. Spatial Organization of Environmental Knowledge: Conservation Conflicts In The Inhabited Forest of Northern Thailand. *Ecology and Society* 9(3): 5. [online] URL: <http://www.ecologyandsociety.org/vol9/iss3/art5>

Sinclair, J. A. and P. Fitzpatrick. "Provisions for More Meaningful Public Participation Still Elusive in Proposed Canadian EA Bill." *Impact Assessment and Project Appraisal*. 20,3 (2002): 161-176.

Saint-Arnaud M. and H. Asselin. "Developing Criteria and Indicators for Aboriginal Forestry: Mutual Learning Through Collaborative Research," p.85-105. in *Changing the Culture of Forestry in Canada*, Stevenson M. and D. Natcher, CCI Press and Sustainable Forest Management Network, 210 pages, 2009.

Saint-Fleur, L.B. *L'exercice du droit des peuples à disposer d'eux-mêmes par les peuples autochtones*. Montreal, Université du Québec à Montréal, Law Department, master's thesis in international law, 180 pages, 2006.

Schramm T. *et al.* "Traditional Environmental Knowledge of Critical Ungulate Habitat of the Caribou Mountains – Lower Peace River Region." *Seeing Beyond the Trees*, Chap. 8, p.145, 2008.

Sherry, E *et al.* "Local-Level Criteria and Indicators: an Aboriginal Perspective on Sustainable Forest Management," *Forestry* 78(5), (2005), pp.513-539.

Stankey G. H. *et al.* "Adaptive Management of Natural Resources: Theory, Concepts, and Management Institutions," (2005), *USDA*.

Stevenson, M. G. "Indigenous Knowledge in Environmental Assessment". *Arctic* 49(3):278-291 (1996).

Stevenson M. *Connaissances traditionnelles et gestion durable des forêts*, Sustainable Forest Management Network (2005) , Edmonton, Alberta, 18 p.

Stevenson, M. and J. Webb. *Just Another Stakeholder? First Nations And Sustainable Forest Management in Canada's Boreal Forest*. Chapter 3, Towards Sustainable Management of the Boreal Forest. Burton, P.J., C. Messier, D.W. Smith, and W. L. Adamowicz (edit.). NRC Research Press, Ottawa, Ontario. P. 65-112, (2003).

Stevenson, M.G. And Perreault, P. "Capacity For What? Capacity For Whom? Aboriginal Capacity and Canada's Forest Sector." *Sustainable Forest Management Network*, (2008), Edmonton, Alberta.

Tengö, M. and K. Belfrage. Local Management Practices for Dealing With Change and Uncertainty: A Cross-Scale Comparison of Cases in Sweden and Tanzania. *Ecology and Society* (2004) 9,3: 4.

[online] URL: <http://www.ecologyandsociety.org/vol9/iss3/art4>

Tyler S., *La cogestion des ressources naturelles*, CRDI, 2006, 120 pages.

Usher, P. "Traditional Ecological Knowledge in Environmental Assessment and Management." *Arctic*. 53,2 (June 2000): 183-193.

Webb J., H. Sewepagaham, C. Sewepagaham, "Negotiating Cultural Sustainability: Deep Consultation and the Little Red River Cree in the Wabasca-Mikkwa Lowlands," Alberta, p. 107-126, in *Changing the Culture of Forestry in Canada*, Stevenson M. and D. Natcher, CCI Press and Sustainable Forest Management Network, 210 pages, 2009.

White, G. "Cultures in Collision: Traditional Knowledge and Euro-Canadian Governance Processes in Northern Land-Claim Boards." *Arctic*. Vol.59, 4 (Dec. 2006): 401-414.

Whitefeather Forest Management Corporation. *Keeping the Land: A Land Use Strategy for the Whitefeather Forest and Adjacent Areas*, WFMC, 2006, Pikangikum, Ontario.

Wiles, A., McEwen, J. & M. H. Sadar. "Use of Traditional Ecological Knowledge in Environmental Assessment of Uranium Mining in The Athabasca Saskatchewan." *Impact Assessment and Project Appraisal*. 18, 2 (1999):107-114.

Wyatt, S. *Co-existence of Atikamekw and Industrial Forestry Paradigms Occupation and Management of Forestlands in The St-Maurice River Basin*, Québec, Faculté de Foresterie et de Géomatique de l'Université Laval, Quebec, April 2004, 385 p.

Wyatt, S., Fortier J-F, Hébert, M. "Multiple Forms Of Engagements : Classifying Aboriginal Roles in Contemporary Canadian Forestry," Chap. 10, *Changing The Culture of Forestry in Canada*, Marc G. Stevenson and David C. Natcher, Editors, CCI Press and Sustainable Forest Management Network, Canada, 2009.

Internet

The Assembly of First Nations. *Canadian Environmental Protection Act: Tool kit*. (1999). Access date: September 17, 2009,
URL: <http://www.afn.ca/cmslib/general/CEPA-f.pdf>

The Assembly of First Nations. *First Nations Environmental Stewardships Action Plan*. May 31, 2005. Access date: September 20, 2009.
URL: <http://www.afn.ca/cmslib/general/environment-f.pdf>

Assembly of First Nations of Quebec and Labrador. *The Right of the Aboriginal Peoples to Co-Manage the Territory*. Brief presented as part of the consultations on Bill 122, with the Commission de l'économie et du travail, on November 17, 2005. Access date: September 3, 2009,
URL: <http://www.apnql-afnql.com/fr/publications/pdf/MemoireAPNQL-2005-11-17.pdf>

Assembly of First Nations of Quebec and Labrador. *Brief presented as part of the consultations on the sustainable development strategy with the Commission des transports et de l'environnement on November 1, 2007*. Access date: September 3, 2009,
URL: <http://www.apnql-afnql.com/fr/publications/pdf/memoires-2007-11-01.pdf>

Assembly of First Nations of Quebec and Labrador. "L'occupation du territoire forestier québécois et la constitution des sociétés d'aménagement des forêts." Document submitted to the Commission d'économie et du travail as part of the specific consultations and public hearings, on October 28, 2008, access date: September 3, 2009,
URL: <http://www.apnql-afnql.com/fr/publications/pdf/memoire-Regime-forestier-fr-22-10-08.pdf>

The Assembly of First Nations, facts sheets, access date: September 2, 2009,
URL: http://www.afn.ca/article.asp?id=765#_edn1

World Bank. Operational Policy on Aboriginal Peoples, OP 4.10 (2005) access date: August 10, 2009, URL: <http://go.worldbank.org/TE769PDWN0>

Canada, a. Canadian Environmental Assessment Agency. The Canadian Environmental Assessment Act, Federal Coordination: an Overview (2003), access date: September 23, 2009,
URL : http://www.ceaa-acee.gc.ca/Content/D/A/C/DACB19EE-468E-422F-8EF6-29A6D84695FC/Federal-Coord-Overview_f.pdf

Canada, b. Canadian Environmental Assessment Agency, Environmental Baseline Process, access date: September 22, 2009, URL : <http://www.ceaa-acee.gc.ca/default.asp?lang=Fr&n=B053F859-1#8>

Canada, c. Canadian Environmental Assessment Agency, definition of significant participation, access date: September 4, 2009, URL: <http://www.ceaa-acee.gc.ca/default.asp?lang=Fr&n=46E06A1F-1#mi>

Canada, d. Canadian Environmental Assessment Agency, Considering Aboriginal Traditional Knowledge in Environmental Assessments Conducted Under The Canadian Environmental Assessment Act (CEAA, 2009) access date: September 6, 2009,

URL : <http://www.ceaa-acee.gc.ca/default.asp?lang=Fr&n=4A795E76-1>

Canada, e. Canadian Environmental Assessment Agency, Cumulative Effects Assessment Practitioners' Guide, access date: September 1, 2009,

URL: <http://www.ceaa.gc.ca/default.asp?lang=Fr&n=43952694-1&offset=30&toc=show>

Canada, f. Canadian Environmental Assessment Agency, Operational Policy Statement, Adaptive Management Measures under the Canadian Environmental Assessment Act (March 2009), access date: September 4, 2009,

URL: http://www.ceaa-acee.gc.ca/Content/D/A/C/DACB19EE-468E-422F-8EF6-29A6D84695FC/Adaptive_Mangt-fra.pdf

Statistics Canada. Seniors: Foundation of Their Communities (2007). Access date: December 1, 2009,

URL: http://www41.statcan.ca/2007/10000/ceb10000_002-fra.htm

Deh Cho First Nation. "Traditional Knowledge Research Protocol" (2004). Access date: September 11, 2009.

URL: http://www.reviewboard.ca/upload/ref_library/DCFN%20TK%20research%20protocol.pdf

Goetze, T.C. *Sharing The Canadian Experience With co-management: Ideas, Examples and Lessons for Communities in Developing Areas*, Memorandum from PRE, Ottawa, 2004, The International Development Research Center, access date: May 19, 2009,

URL : www.idrc.ca/fr/ev-82096-201-1-DO_TOPIC.html

Government of Canada, Council for Yukon Indians, Government of Yukon. "Umbrella Final Agreement" (1988). Access date: April 2, 2009.

URL: http://www.cyfn.ca/uploads/qj/R_/qjR_0e8qO21gk95uB_IKGg/umbrellaFinalAgreement.pdf

Grand Council of the Cree. "Critical Issues: Agreement Concerning a New relationship" (2009) Access date: September 15, 2009,

URL: <http://www.gcc.ca/issues/newrelationship.php>

Grand Council of the Cree. "Critical Issues: la Paix des Braves" (2009) Access date: September 15, 2009,

URL: <http://www.gcc.ca/issues/paixdesbraves.php>

Gwich'in Tribal Council. "Traditional Knowledge Policy"(2004). Access date: July 14, 2009, URL:

http://www.reviewboard.ca/upload/ref_library/GTC_FINAL_TK_POLICY_2004.pdf

Independent Environmental Monitoring Agency. Tasks of the Agency. Access date: October 11, 2009 URL:

<http://www.monitoringagency.net/AbouttheAgency/TasksoftheAgency/tabid/59/Default.aspx>

Inuit Tapiriit Kanatami. 2008-2009 Annual Report Access date: September 15, 2009, URL: http://www.itk.ca/system/files/2008-2009-ITK-Anual-Report_1.pdf

Inuvialuit. Inuvialuit Final Agreement (1984). Access date: May 10, 2008 URL: <http://www.irc.inuvialuit.com/about/finalagreement.html>

Kurtness R. [Les conditions de réussite d'un traité avec les Innus](#), Annuaire du Québec 2006, p. 516-520. Access date: September 2, 2009, URL:

<http://www.panorama-quebec.com/cqjcs/cs.waframe.content?topic=39611&lang=1>

Nunavut, Nunavut Impact Review Board, Guide to the NIRB Review Process, Updated September 2007, Access date: July 19, 2008, URL: <http://ftp.nirb.ca/>

Nunavut, Nunavut Impact Review Board, Rules of procedure, version 1: October 2006 amended on February 6, 2007, Access date: July 19, 2008, URL: [site FTP: http://ftp.nirb.ca/](http://ftp.nirb.ca/).

Ontario, Ministry of Natural Resources, Amendments to Declaration Order MNR-71 (2007), Access date: August 18, 2009, URL: <http://www.mnr.gov.on.ca/fr/Business/Forests/2ColumnSubPage/200225.html>

Ontario, Ministry of Natural Resources of Ontario and of The Pikangikum Nation. *Seeking Environmental Assessment Act Coverage for Forest Management on the Whitefeather Forest, Preliminary Materials for Submission*, July 2007, Access date: July 2008, URL: <http://www.whitefeatherforest.com/pdfs/wfeap-project-description-february 2007.pdf>.

Pelletier Martin, Increasing Cree Participation, The Cree Research and Development Institute, April 7, 2009 Access date: May 15, 2009, URL: http://www.modelforest.net/cmfn/fr/publications/publications/publications_record.aspx?title_id=4969

Lacombe Pat, Winds and Voices Environmental Services Inc. *Determining the Significance of Environmental Effects: An Aboriginal Perspective*, Research

backed by the Research and Development Program of the Canadian Environmental Assessment Agency, Research and Development Monograph Series 2000, access date: May 2009, URL:

http://www.acee.gc.ca/015/001/003/print-version_f.htm

Québec, Ministère Développement durable, Environnement et Parcs, La procédure d'examen et d'évaluation des impacts sur l'environnement au Québec méridional, access date: July 3, 2008, URL:

<http://www.mddep.gouv.qc.ca/evaluations/procedure-en.htm>

Canadian Model Forest Network, Canada Forest Model; Cree Research and Development. Access date: May 15, 2009, URL:

<http://www.modelforest.net/cmfn/fr/forests/waswanipi/default.aspx>

Secrétariat aux affaires autochtones du Québec, *La population Atikamekw*, access date: September 6, 2009,

URL : <http://www.autochtones.gouv.qc.ca/nations/population.htm#attikameks>

United Nations. Resource Kit for Indigenous Peoples' Issues. Prepared by the Secretariat of the United Nations Permanent Forum on Indigenous Issues (2008) 70 pp

http://www.un.org/esa/socdev/unpfii/documents/resource_kit_indigenous_2008.pdf

Waswanipi Cree Model Forest, Ndoho Istchee: An Innovative Approach to Aboriginal Participation in Forest Management Planning, Cree Research Institute, March 7, 2009. Access date: May 20, 2009, URL:

http://www.modelforest.net/cmfn/fr/publications/publications/publications_record.aspx?title_id=4954

Presentation

Guay, L. *Participation et impacts sociaux*, Présentation to the Association québécoise des études d'impacts, AQEI, 2003.

Waub, J-P. L'évaluation environnementale stratégique. Presentation as part of an environmental assessment course. Université du Québec à Montréal, Winter 2008