

**AN EXAMINATION OF THE
DEVELOPMENT ASSESSMENT PROCESS, YUKON**

A Thesis

Presented to

The Faculty of Graduate Studies

of

The University of Guelph

by

THERESA LYNN FRAYNE

In partial fulfilment of requirements

for the degree of

Master of Arts

May, 1997

© Theresa Lynn Frayne, 1997



National Library
of Canada

Acquisitions and
Bibliographic Services

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale
du Canada

Acquisitions et
services bibliographiques

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file *Votre référence*

Our file *Notre référence*

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-24465-2

Canada

ABSTRACT

AN EXAMINATION OF THE DEVELOPMENT ASSESSMENT PROCESS, YUKON

**Theresa L. Frayne
University of Guelph, 1997**

**Advisor:
Professor R. G. Kuhn**

The Development Assessment Process (DAP) is a new Yukon-wide impact assessment process that is in the early formation stages. The Comprehensive Land Claim Umbrella Final Agreement (UFA) (1993) demands the participation of Yukon First Nations in environmental assessment and indirectly requires the use of their knowledge. A challenge lies in determining specific mechanisms and procedures that will address many questions regarding the application of DAP.

This study aims to identify and discuss procedural and information requirements of the Development Assessment Process according to members of 1) Department of Indian Affairs and Northern Development, 2) Yukon Territorial Government, and 3) First Nation organizations. Based on primary data, recommendations are proposed in order to facilitate the operationalization of DAP. Open-ended, semi-structured interviews were conducted with 21 key informants during fieldwork in Whitehorse, from June 2 to August 10, 1996. Participants' perspectives are examined and presented in terms of similarities and differences according to four constructs (*culture, power, participation, knowledge*). The incorporation of traditional knowledge and the paucity of guidelines regarding its use is a prominent issue. Overall, DAP represents an innovative approach to managing northern resources and protecting First Nation lifestyles through the promotion of an equal partnership between the federal and territorial governments, and the Yukon First Nations.

ACKNOWLEDGEMENTS

Thanks to the many people for helping me over the last two years. I gratefully thank Dr. R. G. Kuhn, not only for his advice and direction, but also for his genuine interest in my work. The encouragement, enthusiasm and friendship you extended over the last several years is truly appreciated. To Dr. J. Smithers, thank you for the support and advice you offered freely, helping to enrich the final product. Also, thanks to my fellow graduate students whose companionship helped make my experience a very fun and memorable one.

My appreciation to the numerous people in the Yukon who showed interest and contributed to my field research. To the people at the 'Doc Shop', thank you very much for providing me with Internet access and welcoming my frequent visits. This research was primarily supported through a grant received from the Northern Scientific Training Program, along with financial assistance from the Latomell Scholarship Fund.

I wish to acknowledge the warm friendship of my friends. You have all helped me to celebrate each day and have been a continual comfort. I am extremely grateful to all of my family for showing their love and support, encouraging me to achieve the goals I set for myself. Finally, a very special thanks to my best friend and my husband, Paul Villard, for his patience and affection.....we did it!

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
TABLE OF CONTENTS	ii
LIST OF TABLES	iv
LIST OF FIGURES	v
LIST OF ABBREVIATIONS	vi
1.0 INTRODUCTION	1
1.1 Rationale	3
1.2 Purpose and Objectives	4
1.3 Research Methodology	5
1.4 Structure of Thesis	7
2.0 BACKGROUND TO IMPACT ASSESSMENT IN NORTHERN CANADA	8
2.1 Environmental Impact Assessment (EIA) Process	8
2.1.1 EIA Defined	9
2.1.2 Stages of the EIA Process	10
2.1.3 Characteristics of EIA and Northern Development	12
2.2 Berger Inquiry: Turning Point in Northern Resource Management ..	14
2.2.1 Ascendency of First Nations	15
2.2.2 Land Claim Settlements	16
2.3 Traditional Knowledge and Impact Assessment	18
2.3.1 Traditional Knowledge Defined	18
2.3.2 Applying Traditional Knowledge: Benefits and Barriers	21
2.4 Key Factors to Innovative Northern Impact Assessment	23
2.4.1 Institutional	23
2.4.2 Alternative Frameworks	26
2.6 <u>Umbrella Final Agreement</u> : Development Assessment Process (DAP)	28
2.6.1 Overview of the Development Assessment Process (DAP) ..	31
2.6.1.1 Administrative Structures	31
2.6.1.2 Information and Procedural Requirements	33
2.6.1.3 Tripartite Discussion Process	35
2.7 Summary	37
3.0 RESEARCH DESIGN AND METHODOLOGY	38
3.1 Study Area	38
3.2 Data Collection	40
3.2.1 Interviewing	40
3.2.2 Literature Review	46
3.3 Data Analysis	47

4.0	DESCRIPTION AND ANALYSIS OF PARTICIPANT RESPONSES	52
4.1	Stage 1: Organizing Data Responses	52
4.2	Stage 2: Identifying Emergent Relationships	57
4.3	Stage 3: Analysing Relationships Within the Data	58
	4.3.1 Culture Construct	63
	4.3.2 Power Construct	68
	4.3.3 Participation Construct	74
	4.3.4 Knowledge Construct	77
4.4	Summary	81
5.0	EXAMINATION OF TRADITIONAL KNOWLEDGE IN DAP	83
5.1	Methodology	83
5.2	Discussion of Results	85
	5.2.1 Defining First Nation Knowledge and Experience	85
	5.2.2 Equality of Knowledge	88
	5.2.3 Barriers and Benefits	93
	5.2.4 Methods to Collect and Incorporate Traditional Knowledge ..	98
5.3	Summary of Findings	105
6.0	RECOMMENDATIONS AND CONCLUSIONS	108
6.1	Recommendations	108
	6.1.1 Assessing the Issues & their Potential Implications	109
	6.1.2 Recommendations for Implementing & Operationalizing DAP	110
6.2	Summary of Findings	119
6.3	Contributions, Limitations, and Future Research Opportunities	122
	BIBLIOGRAPHY	125
	APPENDIX	134
	Appendix 1: Final version of interview questions.	135
	Appendix 2: Issues regarding procedural and information requirements and their possible solutions.	137

LIST OF TABLES

Table 2.1: Common Characteristics of Northern Resource Development	12
Table 2.2: A Comparison of Knowledge Characteristics	20
Table 2.3: Innovations to Northern Impact Assessment based on the Literature	24
Table 2.4: Scope of issues to be considered in DAP under s.12.4.2.	34
Table 3.1: Rationale for selecting question topic areas	42
Table 3.2: Overview of groups interviewed	45
Table 4.1: First Nation, YTG, & DIAND Perspectives Regarding Culture	65
Table 4.2: First Nation, YTG, & DIAND Perspectives Regarding Power	70
Table 4.3: First Nation, YTG, & DIAND Perspectives Regarding Participation	75
Table 4.4: First Nation, YTG, & DIAND Perspectives Regarding Knowledge	79
Table 4.5: Summary of Issues Representing Disagreement on DAP	82
Table 5.1: Defining First Nation Knowledge and Experience	86
Table 5.2: Equality of Knowledge	89
Table 5.2.1: Resolving Conflict of Evidence	92
Table 5.3: Barriers and Benefits	96
Table 5.4: Methods to Collect Traditional Knowledge	99
Table 5.4.1: Methods to Incorporate Traditional Knowledge	102
Table 5.5: Summary of Issues Surrounding Traditional Knowledge	106
Table 6.1: Recommendations on Participation	111
Table 6.2: Recommendations on Training and Education	113
Table 6.3: Recommendations on Communication	115
Table 6.4: Recommendations on Design	117
Table 6.5: Recommendations on Power	119

LIST OF FIGURES

1.1	A conceptual framework of the research design	6
2.1	Organization of the land related components in the <u>UFA</u>	30
2.2	Overview of the Development Assessment Process	32
3.1	Study Location	39
3.2	Methodology for organizing and assessing data responses	49
4.1	Categorization of interview responses based on common properties	56
4.2	Categorization of DAP properties and their resulting constructs	61

LIST OF ABBREVIATIONS

1. CEAA Canadian Environmental Assessment Act
2. CYFN Council of Yukon First Nations
3. DAP Development Assessment Process
4. DIAND Department of Indian and Northern Affairs
5. DO Designated Office
6. EIA Environmental Impact Assessment
7. FN First Nation(s)
8. RLUP Regional Land Use Plan
9. TAC Technical Advisory Committee
10. TK Traditional Knowledge
11. UFA Umbrella Final Agreement
12. YDAB Yukon Development Assessment Board
13. YTG Yukon Territorial Government
14. WSK Western Scientific Knowledge

CHAPTER 1

1.0 INTRODUCTION

Conventional decision-making processes regarding resource development were characterized by projects which were technically, economically, and legally viable while incurring high social costs (Bone, 1992; Shapcott, 1989; Smith, 1993). During the 1960's and 1970's, resource development in northern Canada was characterized by a set of factors which together account for a record of questionable, and at times, adverse outcomes. These include mega-scale projects, perceptions that these hinterland regions were 'empty' and 'unused', and an unequal distribution of benefits among project stakeholders (Berger, 1977; Durst, 1994; Peterson and Gemmell, 1981). In 1973, environmental impact assessment was instituted in Canada under the Environmental Assessment Review Process (EARP) administered by the Federal Environmental Assessment Review Office (FEARO) (Lerner, 1984; Rees, 1984). Northern environmental impact assessment challenged traditional decision-making as its aim is to address values and provide pertinent information to assessors, resulting in a comprehensive, informed process.

The Berger Inquiry was a major turning point in the history of northern environmental assessment. It made First Nations an integral part of the process by responding to their needs and concerns regarding a mega-scale pipeline (Berger, 1977; Gamble, 1978). The increasing 'visibility' of First Nations on the national scale, in addition to the settlement of comprehensive aboriginal land claims, has contributed to establishing

special environmental assessment processes. Proclamation of the James Bay and Northern Quebec Agreement (1975) and the Inuvialuit Final Agreement (1984) resulted in the creation of new environmental assessment processes. Each assessment process involves the development of new organizations and administrative procedures, but also entails a readjustment of existing organizations, jurisdictions and responsibilities (Keith and Mulvihill, 1995).

In May of 1993, an agreement entitled Comprehensive Land Claim Umbrella Final Agreement (UFA) was signed by the Council of Yukon Indians, the Yukon Territorial Government, and the Government of Canada. The Agreement documents the rights of land ownership and management that 14 First Nations, representing approximately 8 000 members, have over 41 439 km² of land in the Yukon (Bone, 1992; Bryant, 1996). It represents a shift in decision-making power from government to First Nations regarding land and resource use. Yukon First Nations are facing difficult decisions regarding social, economic, and environmental changes to their lifestyles and traditional territories. Exploration, energy extraction, mining, and road construction are examples of potential development which First Nations must confront. As part of the UFA (1993) requirements, it is mandatory for an environmental assessment impact process to be conducted for any proposed project in the Yukon, either on Settlement or Non-Settlement Land (Government of Canada, 1993). Chapter 12 of the UFA (1993) details the Development Assessment Process which fulfils this purpose, however, only a broad framework describing administrative structures and their responsibilities is provided. The challenge is to define and implement environmental policies and development processes which lead to greater equity, growth, and environmental protection in a northern context.

1.1 Rationale

The Development Assessment Process (DAP) will become the legally binding environmental impact assessment process for the Yukon Territory, replacing the Canadian Environmental Assessment Act (CEAA) procedures. It reflects the needs and concerns of two cultural groups; Euro-Canadians and First Nations. DAP is an innovative approach to resource management that will have implications for all interest groups and future resource users in the Yukon (Prystupa, 1994). It will affect the private, public, industrial, and government sectors on many scales. Although legislation has a sense of finality to it, both legislation and policy are still in the formative stages. Discussions between the federal Department of Indian Affairs and Northern Development (DIAND), the Yukon Territorial Government (YTG), and the Council of Yukon First Nations (CYFN), are aimed for completion by December 1997. Each of the 14 First Nations will then 'sign off' their approval of the draft legislation at which time it proceeds to the Federal Parliament to be passed.

Once DAP legislation is passed in federal Parliament, the next step is to define implementation measures that help operationalize the process. Criteria and specifications for conducting assessments are defined broadly in the UFA (1993) where only basic responsibilities and requirements are outlined. The intent of this research is to gather and assess data from the three main organizations involved in policy formation to identify and summarize perspectives on procedural and information requirements for the implementation of DAP. If "Chapter 12" provisions are to be effectively implemented, operationalization of DAP must have the support of the key players involved. In order to achieve a successful and comprehensive process, differences must be identified among

the three parties so that common ground is established to build policy. DAP policy must not only meet the minimum requirements of CEAA and the provisions of Chapter 12, but it must also address the ambiguous questions and issues raised among the parties to the UFA (1993).

1.2 Purpose and Objectives

The purpose of this research is to examine the procedural and information requirements of the Development Assessment Process (DAP) in order to propose recommendations for its implementation and operationalization in the Yukon. The specific objectives are:

- (1) To identify criteria required for the formulation and operationalization of the Development Assessment Process according to members of the Council of Yukon First Nations, Department Indian Affairs and Northern Development, and Yukon Territorial Development,
- (2) To identify and discuss areas of congruence and disagreement on the procedural and information requirements of the Development Assessment Process according to the three parties to the Agreement,
- (3) To explore the role and limitations of the use of traditional knowledge in the Development Assessment Process, and,

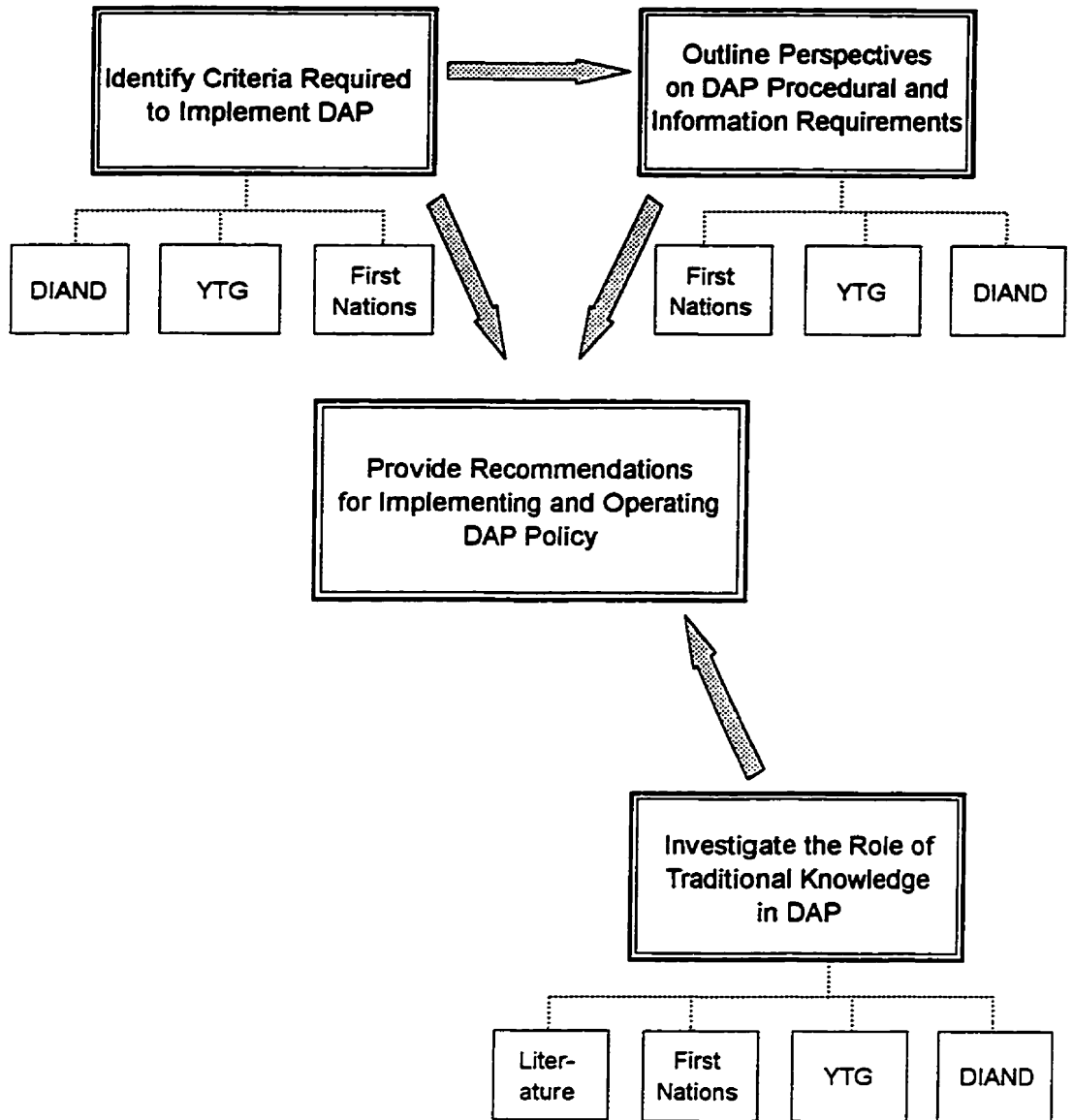
- (4) To provide recommendations regarding the implementation and operationalization of the Development Assessment Process.

1.3 Research Methodology

The overall methodology of this research is embedded in qualitative analysis, where the research design is based on policy analysis and grounded theory. *Policy analysis* was utilized to aid the organization of primary research data acquired from the key informants (Dias and Begg, 1984; Mitchell, 1989). Methodology adapted from *grounded theory* was the predominant approach employed in this research for qualitatively analysing the primary research data collected while in the field (Strauss and Corbin, 1990). Reviews of published materials relating to northern environmental assessment and First Nations were completed to supplement data collected from fieldwork.

The broad approach undertaken for achieving the research objectives is illustrated in Figure 1.1. Interviewing key informants from the federal Department of Indian Affairs and Northern Development (DIAND), the Yukon Territorial Government (YTG), and First Nation organizations, formed the primary basis of data analysis for objectives one, two, and three. Twenty-one key informants were each asked a standard set of questions pertaining to the procedural and information requirements of the Development Assessment Process. Objective one was achieved by gathering insights from the participants regarding the procedural and information requirements. To meet objective two these perspectives were assessed for areas of similar and different opinion. The role and limitations of information in the Development Assessment Process, specifically traditional knowledge, were explored in objective three. In accomplishing the main

Figure 1.1: A conceptual framework of the research design.



purpose of this research, the first three objectives all contributed to the fourth objective, which is to provide recommendations on the implementation and operationalization of the Development Assessment Process for the Yukon.

1.4 Structure of Thesis

This thesis is organized into chapters targeting specific study objectives. Chapter 2 provides the context of this research, giving summary accounts from the literature on traditional knowledge and impact assessment in the Canadian north. Background on the Comprehensive Land Claim Umbrella Final Agreement (1993) is also provided. Chapter 3 introduces the study site and describes the research design and methodology. Response data characterizing the information and procedural requirements are presented in Chapter 4, and are organized around four major constructs. Chapter 5 highlights participants' perspectives specifically on the role of traditional knowledge. A synthesis of findings and recommendations for the development and implementation of DAP policy are outlined in Chapter 6 along with directions for future research.

CHAPTER 2

2.0 BACKGROUND TO IMPACT ASSESSMENT IN NORTHERN CANADA

The contextual setting for this research draws upon a series of previous events and initiatives surrounding resource management, northern land claims, and First Nations in the Canadian north. This chapter will outline the evolution of environmental impact assessment (EIA) in the Yukon, focusing on the practice of EIA, the landmark Berger Inquiry, traditional knowledge, and factors contributing to innovative northern EIA. An overview of Chapter 12 on the Development Assessment Process in the Comprehensive Land Claim Umbrella Final Agreement (UFA) (1993) is also presented.

2.1 Environmental Impact Assessment (EIA) Process

Resource management involves decisions, concerning policy or practice, regarding how resources are allocated and under what conditions or arrangements resources may be developed (Mitchell, 1989). Resource management is rooted in the human-environment tradition of geography. The human-environment tradition views people as being *a part of* the environment, implying that the two components function as one system as opposed to two separate entities (McKay, 1986; Mitchell, 1989; Pattison, 1964). For instance, resources are defined by a number of factors including peoples' attitudes and perceptions, skills, culture, institutions, biophysical, legal arrangements, technology and finances (Mitchell, 1989; Smith, 1993).

Once resources are identified for use, control and development are linked directly to the decision processes in place (Mitchell, 1989). To facilitate resource decision-making, various management approaches have been developed, such as land use planning, joint resource management committees, formation of policy laws, and environmental impact assessment (EIA). The process and approaches to environmental impact assessment are the focus of this chapter.

2.1.1 EIA Defined

EIA focuses on identifying, predicting, assessing and mitigating environmental impacts related to projects, policies, regulations or programs (Beanlands and Duinker, 1983; Whitney and Maclaren, 1985; Wright and Greene, 1987). It is usually conducted on a project-specific basis, making EIA reactive and narrow in scope (Appiah-Opoku, 1994). Beanlands and Duinker (1983, p.3) define EIA as:

A process or set of activities designed to contribute pertinent environmental information to project or program decision making. It attempts to predict or measure the environmental effects of specific human activities or do both, and to investigate and propose means of anticipating those effects.

This definition is appropriate as it places EIA in the context of a decision-making process. This implies that the groups of people empowered to make decisions regarding the allocation and use of resources ultimately influence the nature of information generated from the EIA process. It is this information from which decisions are based. 'Pertinent environmental information' can be interpreted to include social, cultural,

economic and biophysical elements when predicting and measuring environmental effects.

It is generally agreed that EIA is a mechanism where potential environmental consequences of a resource development project are considered *before* the project is undertaken (Gilpan, 1995; Spaling *et al.*, 1993; Swerdfager, 1988; Wright and Greene, 1987). Therefore, EIA is essentially predictive in nature where people involved in a review attempt to predict the impact of a given project. As a result, uncertainty is always a feature of EIA (Beanlands and Duinker, 1983; Swerdfager, 1988), as it is difficult to account accurately for secondary impacts because they tend to occur in conjunction with other impacts, and are manifest over longer periods of time (Ortolano, 1984; Shopley and Fuggle, 1984; Whitney and Maclaren, 1985).

2.1.2 Stages of the EIA Process

A normative framework depicting the EIA process is presented by Whitney and Maclaren (1985). The process is first initiated by a proposed activity and is aimed at generating relevant environmental information. The scoping stage includes the identification and selection of valued environmental components. Once potential impacts are identified, impacts deemed significant are determined (Beanlands and Duinker, 1983; Wright and Greene, 1987). Prediction refers to the use of baseline data to forecast the condition of valued environmental components in the future. Significance assessment is the stage where the magnitude of each change forecasted in the prediction stage is assessed, while evaluation refers to the process of deciding if the changes are positive or negative (Whitney and Maclaren, 1985).

The monitoring stage involves the process of subjecting the predicted impacts to verification by observing actual and natural changes in the environment (Gilpan, 1995). Finally, mitigation refers to the actions of attempting to minimize significant impacts through compensation, remedial measures, and modified project design (Spaling *et al.*, 1993; Whitney and Maclaren, 1985).

Public participation plays a critical role throughout the EIA process (Armour, 1979; Berger, 1977; Grima, 1985; Spaling *et al.*, 1993; Whitney and Maclaren, 1985). It allows citizens, politicians, minority and special interest groups to contribute to the EIA process (Grima, 1985; Plewes and Whitney, 1977). It is argued that minimal public scrutiny results in a less effective EIA because public or stakeholder values are not incorporated (Appiah-Opoku, 1994; Gilpan, 1995; Grima, 1985). However, the role of public participation is often limited by access to information or resources, such as a lack of intervener funding (Spaling *et al.*, 1993).

The dominant approach to EIA revolved around the 'scientific' paradigm. This formal, technocratic approach emphasized a structured, value free framework consisting of formalized data, hypothesis testing and replicability at its core (Kuhn and Duerden, 1996; Mulvihill, 1990; Smith, 1986). Weaknesses associated with this approach include constraining the role of stakeholders in decision-making, dissuading subjectivity or emotion, and following a discrete, mechanistic method (Sadler and Boothroyd, 1993; Wolfe *et al.*, 1992). Beanlands and Duinker (1983) noted that EIA is an anthropocentric process. The very nature of EIA entails judgements and values from which decisions are based. Some authors accept the view of subjectivity as a part of the process, where others perceive it as a problem, undermining the 'scientific rigidity' of EIA (Beanlands and Duinker, 1983; Bisset, 1988; Sadler, 1988; Spaling *et al.*, 1993).

2.1.3 Characteristics of EIA and Northern Development

By the 1970's, the regulatory framework of EIA was insufficient to deal with growing conflicts among the potential users of northern resources (Doubleday, 1993; Mulvihill, 1990). Characteristics associated with northern development are summarized in Table 2.1.

Table 2.1: Common characteristics of northern resource development.

Characteristics of Northern Resource Development
<ul style="list-style-type: none">➤ large scale mega-projects➤ remote locations➤ high degree of uncertainty➤ unequal distribution of benefits➤ conflict among stakeholders

(Source: Berger, 1977; Berkes, 1981; Bone, 1992; Durst, 1994; Richardson, 1991).

Mega scale projects, such as hydrocarbon development, have dominated resource development proposals in the north (Rees, 1984; Smith, 1993; Swerdfager, 1988). Conditions are technologically challenging and construction costs often exceed one billion dollars (Bone, 1992). Therefore, projects must be large enough to ensure that they are economically feasible. For example, the Mackenzie Valley pipeline proposed in the early 1970's would have been the longest in the world, snaking 3,900 kilometres from Prithce Bay to southern Alberta (Berger, 1977).

Large scale projects are characterized by a high degree of uncertainty (Mulvihill,

1990; Smith, 1993). Reasons include the expansive scale of projects and their possible effects, the impacts of technology are unclear, and baseline data are often lacking or inadequate (Bone, 1992; Everett, 1986; Nakashima, 1990; Smith, 1993). This dearth of understanding about Arctic environments is problematic in scoping potential impacts comprehensively, identifying valued environmental components, and questioning the credibility of predictions and significance assessments (Appiah-Opoku, 1994; Beanlands and Duinker, 1983). Difficulty in forecasting the life expectancy of projects is also attributed to the large scale and scope of mega projects (Rees, 1984).

Conflict among project stakeholders is another characteristic of development in northern regions. In the past, government and industry predominately viewed the north as an opportunity for major economic development. Large deposits of nonrenewable resources, small populations, and isolated geographic location are all factors contributing to the north as a lucrative development prospect (Bone, 1992; Duerden, 1992; Smith, 1993). In contrast, First Nations perceive the north as their homeland (Berger, 1977; Brody, 1981; McClellan, 1987). Northern indigenous people have established a lifestyle that is inextricably tied to the land base both physically and spiritually (Colorado, 1988; Goehring, 1993; Pell and Wismer, 1987). Spiritual beliefs are often linked to the land, suggesting that the land is rarely perceived in just economic terms (Berndt, 1982). Different cultural systems dictating different land uses and values result in conflict over future uses of land. First Nations are not opposed to development, but instead, they want to see it brought down to a community level of planning that accounts for their daily economic, social, cultural and spiritual needs (Bone, 1992).

Another concern of "northerners" is the unequal distribution of project benefits. Projects are promoted on the basis of large, 'supra-regional' benefits, usually expressed

in terms of national or regional goals (Smith, 1993). Often, the perceived benefits by industry (ie. wage employment, training skills, modern living conditions) are temporary and result in more harm to the social fabric of communities than good (Bone, 1992; Gamble, 1978; Richardson, 1981). Most substantial benefits accrue to distant populations as there is an exodus of capital to the south.

There is no doubt that mega projects have helped to develop northern regions, however, both industry and governments have neglected the social and cultural costs of resource exploitation on northern communities. Significant costs are perceived by people whose traditional patterns of land use and occupancy are threatened by new technologies and incompatible world views (Geisler *et al.*, 1982).

2.2 Berger Inquiry: Turning Point in Northern Resource Management

The first major EIA conducted in northern Canada was the Mackenzie Valley Pipeline Inquiry, also known as the Berger Inquiry. A brief background along with a discussion on some of the major consequences on the role of EIA in the north is outlined.

In 1974 the Berger Inquiry was initiated under the Environmental Assessment and Review Process (EARP) to examine the impacts of a proposed arctic oil pipeline to transport Alaskan and Canadian oil to American and Canadian markets. This three year process consisted of public consultation and review phases to obtain residents' opinions, fears and concerns regarding large scale development (Gamble, 1978). One distinguishing feature of the Inquiry was that two types of hearings were conducted; formal and informal. Formal hearings involved the presentation of technical and legal information from expert witnesses. Informal hearings were held in 35 communities, providing First

Nations with the opportunity to voice their concerns about resource development on their lifestyle. Upon reviewing the evidence, Justice Berger recommended a ten year moratorium on pipeline construction be instituted until the more broad, significant issues that emerged from the Inquiry were addressed comprehensively (Berger, 1977).

The Berger Inquiry was the first EIA to reach Canadians on a national scale and influence their attitudes towards mega projects, the northern environment, and First Nation issues (Bone, 1992; Gamble, 1978; Swerdfager, 1988). One critical outcome from the Inquiry was that it established a broader definition of 'environment'. EIA for mega projects could no longer focus solely on the potential biophysical impacts. It was realized that northern people depended on natural resources, and therefore, were directly and indirectly affected by adverse environmental impacts (Brody, 1981; Gamble, 1978; McClellan, 1987; Richardson, 1991). As a result, not only environmental, but social, cultural, and economic implications of development on native lifestyles were deemed important and addressed in the EIA (Berger, 1977; MacPherson and Netro, 1989).

In addition to securing a strong social component and place for public participation in environmental assessment, broader issues emerged from the Berger Inquiry that influenced northern resource management overall. In particular, they relate to the ascendancy of First Nations in formal northern resource management processes.

2.2.1 Ascendancy of First Nations

One major outcome of the Berger Inquiry was the changing role of First Nations in resource development. Where past government policies encouraged outside interests to become involved in northern development projects, native aspirations were often

overlooked (Crowe, 1991; Reed, 1990). As a result, native people were excluded from substantive involvement in decisions that directly affect their livelihoods (Bone, 1992; Reed, 1990; Richardson, 1991). During the community hearings of the Berger Inquiry, First Nations voiced their concerns on a national scale about their dissatisfaction with the governments' direction of economic and social growth for the north (Gamble, 1978).

The role of First Nations' participating throughout the hearing process was a landmark action to the EIA process. First Nations were provided with their first opportunity to participate in a decision process regarding the impacts of constructing an oil pipeline. Their opinions were accounted for and ultimately influenced the final decision of postponing pipeline construction. First Nations continue to demand greater consideration of the cultural, social and economic impacts in federal environmental assessments. They call for the creation of new institutions in which they could share in the decision-making process on lands that they traditionally used and occupied (Reed, 1988; 1990; Swerdfager, 1988). One means to achieve this goal is through land claim settlements.

2.2.2 Land Claim Settlements

Settling land claims prior to mega scale development in the north was highlighted throughout the Berger Inquiry as a critical issue needing resolution. The owner of resources has reserved the right to make decisions regarding environmental protection (Reed, 1990). Because western forms of government have retained resource ownership in the northern territories, they have also retained responsibility for land use and environmental management. Likewise, First Nations claim to the right to influence decision-making regarding development processes and protection measures stem from

their original land occupation and their laws that govern its uses (Crowe, 1991; Richardson, 1991).

Primary motivations for settling land claims are of both non-native and native origin. From the non-native perspective, the question of land title leaves uncertainty for large scale northern development, especially in terms of division of economic revenue (Berger, 1977; Mulvihill, 1990; Swerdfager, 1988). Settlement of land claims establishes economic and political stability for investing into large scale development projects. Another motivation for settling land claims was related to the rising public activism on environmental issues during the 1960's. The strong interest in native rights and land claims was partly due to the similar goals of environmental protection and sustainable development between the First Nations and activists (Duerden, 1992; Reed, 1988; Pell and Wismer, 1987; Swerdfager, 1988).

From the native perspective, First Nations argue that they held title to land throughout Canada which was never extinguished (Crowe, 1991; Reed, 1988). No native land claims were filed in the north before 1973 because there was no mechanism in place allowing northern indigenous people to do so. An upswing in northern resource development in the early 1970's, however, acted as a catalyst for the emergence of land claims as a major issue in the north (Mulvihill, 1990; Reed, 1990). This was attributed to the increasing conflict between native and non-native views on the nature, scale and pace of northern development (Berger, 1977; Bone, 1992; Richardson, 1991).

Land claim negotiations have been ongoing in Canada since the early 1970's (Richardson, 1991). To date, four major settlements have been ratified in Canada: James Bay Northern Quebec Agreement (1975), Inuvialuit Final Agreement (1984), Nunuvut Final Agreement (1993), and Comprehensive Land Claim Umbrella Final Agreement.

2.3 Traditional Knowledge and Impact Assessment

Knowledge gives meaning and value to the immediate surroundings and provides a frame of reference to interpret, understand, and relate to that environment (Strachan, 1988). The context of knowledge systems is distinguished by their philosophical, cultural, and social dimensions, which give meaning and value. The importance of context for understanding and communicating knowledge in northern indigenous societies is significant as knowledge is constructed by each individual. By realizing that different cultures have different ways of perceiving, experiencing, and defining reality, the strengths of traditional and western knowledge systems plus their potential contributions to environmental assessment are understood (Stevenson, 1996).

2.3.1 Traditional Knowledge Defined

Traditional knowledge¹ has numerous titles within the literature that are used interchangeably; Indigenous Land Use Information (ILUI), Traditional Environmental Knowledge (TEK), indigenous ecological knowledge, traditional knowledge, and native knowledge (Johnson, 1992; Kuhn *et al.*, 1994; Lalonde, 1991; LeBlanc, 1995; Linzey, 1995; Nakashima, 1990; Stevenson, 1996). Recently, however, there has been discussion in the literature regarding the constituents of such knowledge systems.

Traditional knowledge is recognized as comprising two major dimensions,

¹'Traditional Knowledge' is the term used consistently throughout this thesis and is recognized as encompassing both the environmental (physical) and spiritual (non-physical) dimensions of First Nations' knowledge.

ecological and spiritual (Inglis, 1993; Johnson, 1992; Stevenson, 1996). The spiritual dimension essentially captures the philosophy entailing beliefs, social customs, and cultural practices. Traditional Ecological Knowledge (TEK) is composed of three main information types; specific environmental knowledge, knowledge of environmental interrelationships, and a code of ethics. Land use patterns, seasons, and characteristics of plant and wildlife species are examples of specific environmental knowledge. Knowledge of the relationships and interactions of environmental components represents the second component. The code of ethics refers to the management of resources according to community norms and values. (Kuhn and Duerden, 1996; Manzie, 1994; Stevenson, 1996; Wolfe *et al.*, 1992).

Traditional knowledge is based upon concepts which differ from those offered by western scientific knowledge (Table 2.2). It is culturally and geographically specific, and often comes with its own rules governing use and transmission (Johannes, 1993). People who possess traditional knowledge must continually practice it to keep it alive. It is found in the language of the people who use it. First Nations' acquire their knowledge through daily experiences and activities, forming strong emotional and intellectual ties to the northern landscape (Brody, 1981; McClellan, 1987).

Traditional knowledge represents an understanding of the human place in relation to the universe. It is comprised of relationships characteristic of spirituality, the natural environment, use of resources, between people, and is reflected in language, social

Table 2.2: A comparison of knowledge characteristics.

Traditional Knowledge	Western Scientific Knowledge
<ul style="list-style-type: none"> ➤ qualitative ➤ holistic ➤ intuitive ➤ cumulative and dynamic ➤ slow generation of data ➤ subjective and experiential ➤ rooted in social context ➤ oral ➤ local scale, detailed knowledge ➤ cosmological and spiritual focus ➤ provides unwritten rules and norms ➤ inclusive ➤ useful for long term predictions ➤ collective community memory ➤ morals are embedded ➤ considers mind and matter together 	<ul style="list-style-type: none"> ➤ quantitative ➤ reductionistic, selective ➤ rational ➤ experimentation and systematic ➤ rapid generation of data ➤ objective and positivist ➤ rooted in scientific context ➤ written ➤ large scale, broad knowledge ➤ mechanistic focus ➤ factual ➤ decisive ➤ useful for short term predictions ➤ compartmentalized memory/ records ➤ supposedly value-free ➤ separates mind and matter

(Sources: Berkes, 1993; Inglis, 1993; Johnson, 1992; Kuhn and Duerden, 1996; Lalonde, 1991; Stevenson, 1996; Strachan, 1988; Wolfe, J. *et al.*, 1992).

organization, values, institutions, and laws (Doubleday, 1993; GNWT, 1991). Generally, traditional knowledge is expressed in oral form and is transmitted from one generation to the next by a combination of storytelling and practical teaching. It is both evolutionary and dynamic (Doubleday, 1993). As described in the words of a First Nation member, traditional knowledge is a *"Path we follow, no beginning no end, it is everything. You have to feel it to live it"* (DIAND, 1996, p.3).

2.3.2 Applying Traditional Knowledge: Benefits and Barriers

Given the limitations of conventional environmental assessment in satisfying First Nation concerns, the process needs to undergo change in order to make it more relevant to First Nations (Geisler *et al.*, 1982; Johannes, 1993). 'Blending' the dominant society's world view and the traditional perspective of land management through the combined use of their knowledge is recognized as one method to improving EIA (Doubleday, 1993; MacPherson and Netro, 1993; Shapcott, 1989) . Many questions surround the issue of merging two knowledge systems into a new approach for environmental problem solving. It is useful to review the benefits and difficulties of incorporating different knowledge types in environmental assessment to understand where there are limitations and strengths.

Benefits to using traditional knowledge are recognized in the literature. Balanced decision-making is a positive outcome as increased or, even enhanced information, widens the spectrum of knowledge from which decisions are based (Kuhn *et al.*, 1994; Manzie, 1994; Smith, 1993b). Improved communication and understanding between hunters, First Nation communities, biologists, and resource managers will result from the interaction of these groups via shared representation on boards and committees (Okrainetz, 1994). The arrangements of shared decision-making power can vary significantly, from consultation, to advisory, to equal partnership (GNWT, 1991; Manzie, 1994). However, First Nations become more aware of their culture due to their required participation and knowledge sharing in formal institutional settings (Kuhn and Duerden, 1996). This is key to their survival as a distinct people and helps to determine a place for them in the modern world.

Many barriers identified in the literature relate to the practical use of traditional

knowledge in management frameworks. A lack of financial support and personnel to coordinate government and non-government organizations is an obstacle (Doubleday, 1993; GNWT, 1991). No formal method has been established yet for elders to provide advice to decision-makers and assessors (Johannes, 1993). The government and the public, both, need to be educated on the concepts and meanings of traditional knowledge as there is little documentation describing how to collect and include it in management regimes (Manzie, 1994). Lack of centralized access to research already completed perpetuates the duplication of effort in collecting the information (Dene Cultural Institute, 1993).

Problems of accessibility to the information is partly attributed to a lack of trust by First Nations and cultural sensitivity to other knowledge types (Kuhn *et al.*, 1994). Ownership of knowledge is an issue because it is unspecified whether those who possess it will, or should, be required to share it. Furthermore, clarification is required to determine who has access to this information once it is documented because there is a risk of misinterpreting it when removed from its original context or transferred to other management frameworks (DIAND, 1996; Kuhn and Duerden, 1996).

Difficulty exists in trying to merge two different knowledge systems into one resource management regime because both should be treated as equal, instead of one acting as supplementary information to the dominant one (Johannes, 1993; MacPherson and Netro, 1993). The challenge lies not in devising methods to assimilate First Nations' knowledge into the western management framework, rather, it lies in developing a framework that draws upon the strengths of both knowledge systems where all participants have an active role in all levels (Sadler and Boothroyd, 1993; Shapcott, 1989).

2.4 Key Factors to Innovative Northern Impact Assessment

Dynamic forces in the Canadian north have contributed to new emerging frameworks of resource management, including land claim settlements and different cultural approaches to environmental management (Johannes, 1993; Mulvihill, 1990; Pinkerton, 1993). Innovations to northern impact assessment are well documented and can be organized into three major categories; institutional, alternative frameworks, and information (Table 2.3). Discussion on factors contributing to comprehensive northern impact assessment is structured around these categories.

2.4.1 Institutional

Innovations to the institutional component of northern impact assessment are linked strongly to the settlement of land claims. Resolution of legal title to land determines the extent of First Nation or government responsibility over decision-making processes regarding the allocation of resource use. Varying views, mechanisms, and priorities of land use from each group influences their approach to environmental management. Land claim issues became matters of growing importance to aboriginal people because implications from their resolution affected economic, political, social environmental processes (Berkes, 1981; Mulvihill, 1990; Reed, 1988).

The settlement of the Western Arctic Inuvialuit Final Agreement in 1984 exemplified how public participation in EIA was altered by modifying the institutional structures. Previously, the public was placed in a reactive position and was unable to contribute to the preparation of the environmental impact statement (EIS) draft guidelines,

Table 2.3: Innovations to northern impact assessment based on the literature.

Innovation	Reference	Main Concept
Institutional	<ul style="list-style-type: none"> • Mulvihill, (1990) • Reed, (1990) • Reed, (1988) • Swerdfager, (1988) • Dias and Begg, (1994) 	<ul style="list-style-type: none"> • Institutions and organizations need to 'adapt' to northern circumstances; proposes criteria. • Discusses new institutional structures established under the IFA (1984) requiring Inuvialuit participation. • Compares institutional approaches of native involvement in EIA from Canada, US, and Australia. Canada legalizes and explicitly states participation. • Settlement of native claims provides a mechanism to incorporate native participation and concerns into policy frameworks. • Policies and regulations need to include traditional knowledge and match northern jurisdictions.
Alternative Frameworks	<ul style="list-style-type: none"> • Johannes, (1993) • MacPherson and Netro, (1993) • Sadler and Boothroyd, (1993) • Wolfe <i>et al.</i>, (1992) • MacPherson and Netro, (1989) • Shapcott, (1989) • Colorado, (1988) • Roots, (1994) 	<ul style="list-style-type: none"> • Discusses need to improve EIA by systematically integrating TK, gives examples of contributions. • Community based approach to EIA reflecting traditional and present day values of Old Crow, Yukon; need to develop more sensitive EIA process to northern communities. • Shift in fundamental basis of Traditional Ecological Knowledge (TEK) and resource management. EIA requires formal integration of First Nations and TEK to meet holistic approach to management. • Looks at western and indigenous management systems; highlights strengths of both for effective co-management. • Proposes new means of overcoming weaknesses of conventional EIA in the north by meeting the needs of First Nation groups. • Incorporating native values into EIA to overcome limitations; must keep TEK in northern context. • Need to bridge the gap between native and western science. • Accepted set of values shared by all those in authority.

Table 2.3: Innovations to northern impact assessment based from the literature (cont.)

Innovation	Reference	Main Concept
Information	<ul style="list-style-type: none"> • Sallenave, (1994) • Okrainetz, (1994) • Smith, (1993b) • Cole, (1992) • Arragutainaq and Fleming, (1991) • Nakashima, (1990) • Everett, (1986) • Berkes, (1993) • Dias and Begg, (1994) • Roots, (1994) • Lalonde and Akhtar, (1994) • Stevenson, (1996) 	<ul style="list-style-type: none"> • TEK increases the effectiveness of evaluating and monitoring environmental impacts. • Use of TEK in cumulative effects assessment for the Hudson Bay Monitoring Program augments existing database for prediction and modelling. • TEK improves EIA process as functions as baseline data. • Recognizes potential contribution of TEK to EIA as baseline information on the northern environment. • Potential inclusion of TEK in EIA process (ie. James Bay Project) improves understanding of impacts and constitutes a better assessment. • Uses TEK on eider ducks to augment limited northern baseline data to conduct EIA on potential oil spills in Hudson Bay. • First Nations play a key role in all stages of monitoring energy developments (ie. Mackenzie Environmental Monitoring Program) • Must establish equal power sharing in decision making between the two cultures to use TK and WSK. • Full information, and access to it, is needed to conduct EIA as it is an obligation. • Decision-makers must have understanding and capability to absorb and use knowledge types. • Indigenous people and their communities need effective participation and fair compensation. • Emphasizes the 'full' use of traditional knowledge in EIA, not dissected components of it.

the preparation of the EIS itself, or, to the screening process (Reed, 1988; 1990; Swerdfager, 1988). New structures rooted in legislation under the Inuvialuit Final Agreement (1984) featured a screening and review component that required public

participation. Screening and review committees consist of three members appointed by the Inuvialuit and one member designated by each of the territorial and federal governments (Reed, 1990; Swerdfager, 1988). The structure of each committee provided a prominent role for the Inuvialuit in the assessment process.

Settlement of native land claims has had positive outcomes for First Nation participation in northern impact assessment by providing for more broadly based input at the regional level. By reviewing the effects of land claim settlements on institutional structures, it is clear that the design and management of organizations to conduct northern environmental assessments is, and continues to be, a learning process (Keith and Mulvihill, 1995). Mandatory participation of First Nations and the establishment of new decision-making structures are both innovations to establishing a fair and effective northern assessment process.

2.4.2 Alternative Frameworks

One challenge to conducting northern impact assessment is to enhance the accuracy and relevance of the process in cross-cultural situations (Colorado, 1988; Shapcott, 1989; Smith, 1993b). Mechanisms need to be identified through which local cultural values can be incorporated into the decision process. The multiplicity of environmental perceptions and management approaches must be recognized to establish respect (Kuhn *et al.*, 1994; Manzie, 1994). Then, mutual goals can be defined and used to design the assessment framework and establish implementation policy. If an environmental assessment process is developed through consensus building, cultural tension and lack of trust between the two groups will be minimized.

Often, resource managers contest the view that western science can learn from alternative knowledge frameworks (Mitchell, 1989; Sadler and Boothroyd, 1993). Minimal attention has been given to other cultural, social and economic values, and their interrelationships. It is proposed that a more sensitive and responsible EIA practice can be established by accounting for First Nation values, goals and aspirations, minimizing the technocratic orientation (Kuhn and Duerden, 1996; MacPherson and Netro, 1993; Shapcott, 1989). A major factor contributing to effective northern EIA is whether it makes sense in the First Nation context (Johannes, 1993; Sadler and Boothroyd, 1993; Stevenson, 1996).

Information

Information drives the EIA process (Roots *et al.*, 1994). First Nation involvement in environmental assessment affords them the opportunity to influence the decision process by employing their traditional knowledge. For example, traditional knowledge is proposed as a means of broadening the information base on which predictions are made, realizing First Nation concerns, and identifying significant native issues that require evaluation (Cole, 1993; Nakashima, 1990; Okrainetz, 1994; Sallenave, 1994; Smith, 1993b). First Nations are also able to identify priorities for monitoring within their land use area as their holistic view of the environment lends insight into the intricate relationships between the biophysical, economic, and social components of the environment (Everett, 1986; Nakashima, 1990; Reed, 1990; Sallenave, 1994). Participation of First Nations helps to ensure that their current views and values are considered throughout the assessment process as traditional knowledge is forever changing (Cole, 1992;

Stevenson, 1996).

In summary, the effectiveness of an assessment process is a function of three elements. The first is control. This refers to the way in which an assessment process is initiated and directed, and who has ultimate decision-making authority. Second, participation, refers to the manner in which people affected by the plan or proposal, are involved throughout the process. Quality and nature of information is the third key element needed to conduct an effective assessment process (Doubleday, 1993; Duerden and Kuhn, 1996; Mitchell, 1989; Okrainetz, 1994; Roots *et al.* 1994; Sallenave, 1994; Smith, 1993a). These three factors consisting of control, participation, and information, have played significant roles in shaping the new environmental assessment process for the Yukon.

2.6 Umbrella Final Agreement: Development Assessment Process (DAP)

The Comprehensive Land Claim Umbrella Final Agreement (UFA) negotiated between the federal government, territorial government, and the Council for Yukon Indians, now called the Council of Yukon First Nations (CYFN), was ratified in May 1993 (Government of Canada, 1993). Under the auspices of the Agreement, each of the fourteen Yukon First Nations is responsible for negotiating with the federal government specific terms for their individual land claim settlements. All Yukon residents benefit from the approval and signing of the UFA (1993) due to certainty of ownership and management over 41 439 km² of lands and resources in the Yukon. Approximately 8 000 Yukon First Nations will have the resources to participate in, and benefit from, economic

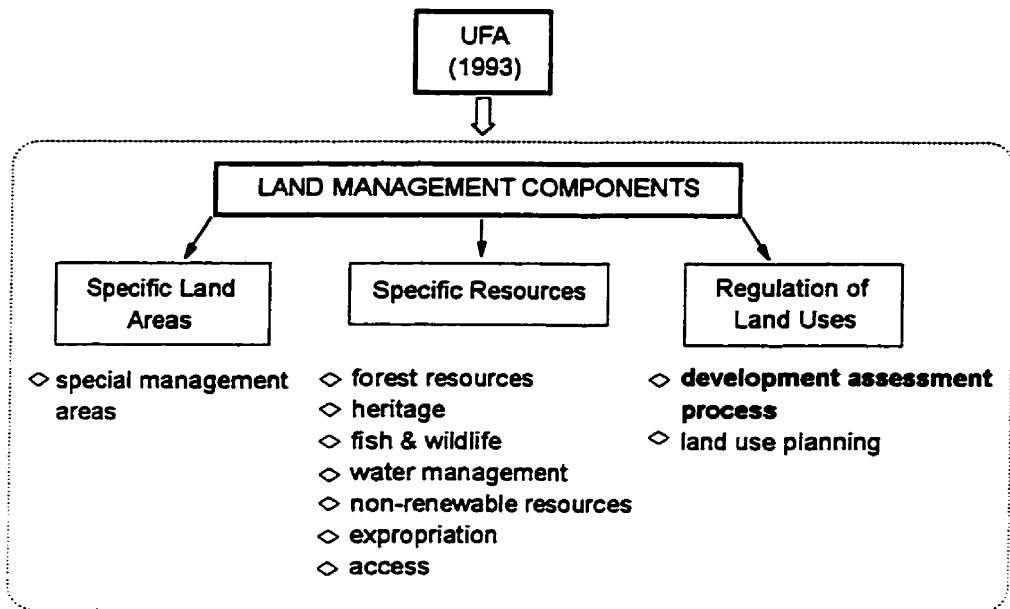
opportunities (Bryant, 1996). In turn, industry will be supported by the resolution of the land question and by the establishment of clear requirements for environmental protection and approval mechanisms.

The UFA (1993) grants First Nations the opportunity to assert control and decision-making powers over their traditional lands and wider regions through self-government and co-management regimes. The Agreement is a highly structured document. From the 28 chapters in the UFA (1993), eleven focus on land use and land regulatory processes. The eleven different land related components can be organized into three types of land management strategies (Figure 2.1). These include specific land areas, specific resource use, and regulation of land uses.

In the UFA (1993), each land-related component is outlined in terms of its purpose, provisions, regulatory mechanisms and spatial extent. This research focuses on one land-related component, the Development Assessment Process (DAP). DAP provides a *"comprehensive review of environmental and socio-economic effects of proposed projects and promotes the well-being of First Nation Communities, environmental quality, and heritage resources"* (LeBlanc, 1995, p.78). It requires a review of major project proposals to determine whether development should be approved, modified, or rejected. Chapter 12 of the UFA (1993) sets out the basic objectives and components of a new Development Assessment Process for the Yukon. Based on this chapter, the Government of Canada will enact new legislation, and the governments of both Canada and the Yukon will amend existing laws where necessary to set up the process for reviewing the environment and socio-economic effects of development projects.

The new DAP legislation must meet the minimum requirements of the Canadian Environmental Assessment Act (CEAA). First introduced as Bill-78 in 1990, and re-

Figure 2.1: Organization of the land related components in the UFA.



introduced as Bill-C13 in 1991, CEAA became the first Canadian federal assessment law when enacted in 1992. Sixteen new regulations were introduced under Bill-C13 focusing on requirements for the inclusion and exclusion lists, clearer procedures, specific responsibilities of federal authorities, and mechanisms for public participation (Government of Canada, 1990). CEAA is intended to be used as a tool by federal decision-makers to account for environmental, political, social, and economic effects of projects early in the planning stages, where its statutory basis reduced uncertainty and interpretations of concepts. Issues addressed by CEAA include intervenor funding, required post evaluation, and reducing the duplication of assessment processes under different jurisdictional powers.

2.6.1 Overview of the Development Assessment Process (DAP)

The Development Assessment Process (DAP) will be reviewed in order to provide background for understanding the context of this research and to highlight what is known about it. The main administrative structures, information and procedural requirements, along with insight into the tripartite discussion process are all examined.

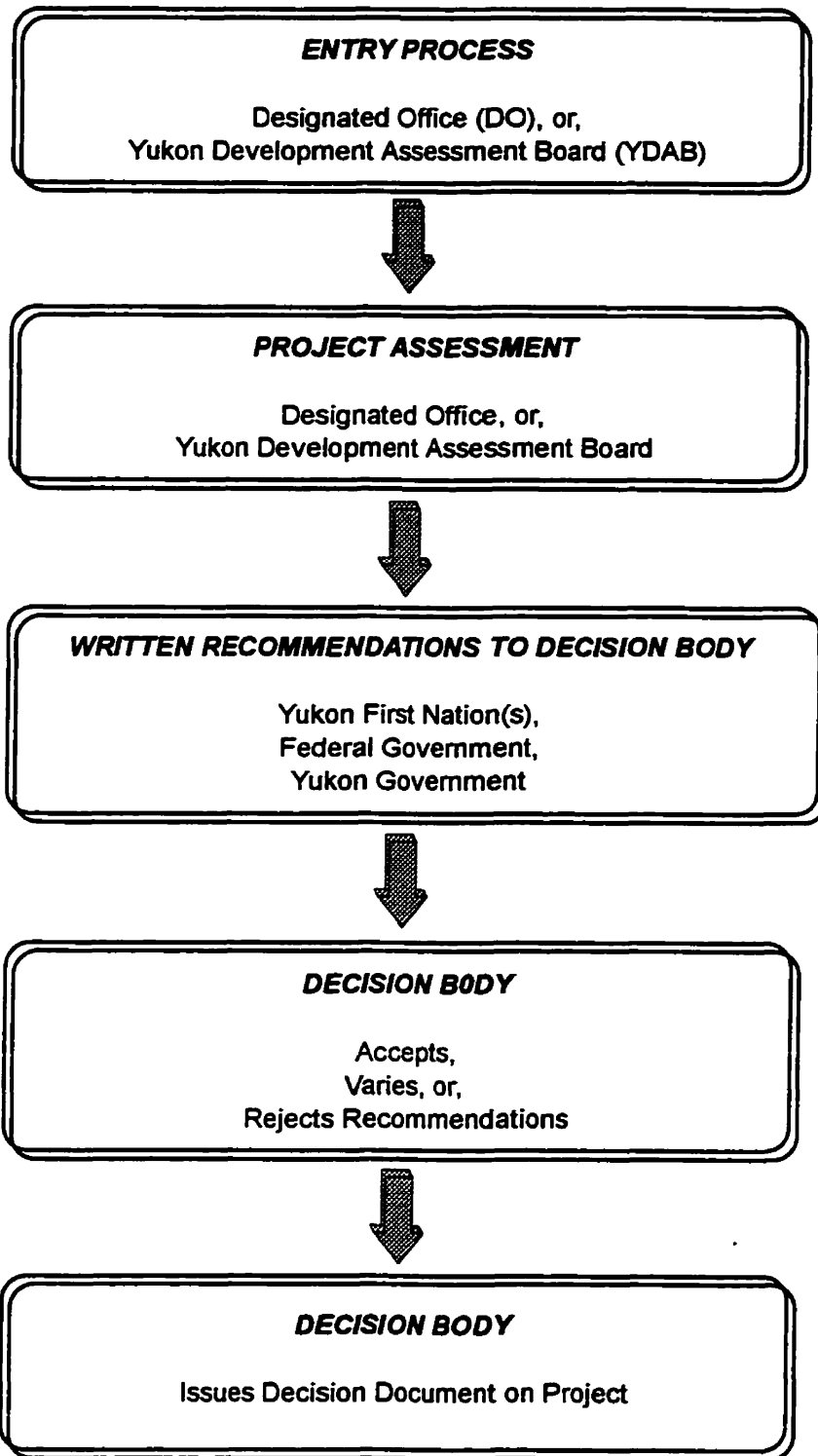
2.6.1.1 Administrative Structures

There are three main management structures involved in DAP; Designated Office, Yukon Development Assessment Board, and the Decision Body. Each has specific roles and responsibilities in conducting reviews (Figure 2.2). The Development Assessment Process can be initiated by a broad range of potential impacts including cultural, social, environmental, economic and heritage. Transboundary projects and policy may also trigger DAP if potential impacts are deemed to occur in the Yukon. However, the specific 'triggers' of the Development Assessment Process are not defined in the UFA (1993).

The Designated Office may function as an entry point where proposals are first screened and assessed. If projects require further review they are referred to the Yukon Development Assessment Board. A Designated Office will coordinate information and make written recommendations to a Decision Body as to whether a project should proceed.

The Yukon Development Assessment Board (YDAB) administers the duties and responsibilities outlined in the development assessment legislation, which include reviewing proposals and providing recommendations to the Decision Body regarding

Figure 2.2: Overview of the Development Assessment Process.



(Adapted from YTG, 1996).

project approval. The board will be comprised of an Executive Committee and a set number of members, where half of the representatives will be nominated by CYFN, and the other half by the federal and territorial governments. The Executive Committee will consist of one nominee from CYFN and, the federal and territorial governments, in addition to a Chair (Chair of YDAB). Authority to establish panels for reviewing specific projects or for making recommendations to the Decision Body about project approval will lie with the Executive Committee.

The Decision Body may be a First Nation, territorial or federal government, or a combination of these governments depending on the location of the proposed project. The Decision Body will have the power to determine whether a proposed project is allowed to proceed, rejected, or can proceed subject to modifications. A written 'Decision Document' must be completed and made available to the public outlining the reasons for their decisions.

.

2.6.1.2 Information and Procedural Requirements

One distinguishing feature of DAP, compared to other impact assessment frameworks, is a set of provisions (s.12.4.2), which clearly outlines the main issues to be considered by developers preparing project proposals, and by assessors on DAP boards and committees. There are ten clauses identified by CYFN, YTG and DIAND that outline matters central to environmental assessment in the Yukon (Table 2.4). Even though s.12.4.2 represents the core of DAP, mechanisms are needed in the form of policy to incorporate and operationalize them. Not only will DAP need to accomplish what the UFA (1993) outlines in Chapter 12, but the minimum requirements of CEAA must also be met

Table 2.4: Scope of issues to be considered in DAP under s.12.4.2.

12.4.2 YDAB and each Designated Office shall consider the following matters when carrying out their functions:

12.4.2.1 the need to protect the special relationship between Yukon Indian People and the Yukon wilderness Environment;

12.4.2.2 the need to protect the cultures, traditions, health and lifestyles of Yukon Indian People and of other residents of the Yukon;

12.4.2.3 the need to protect the rights of Yukon Indian People pursuant to the provisions of Settlement Agreements;

12.4.2.4 the interests of Yukon residents and Canadians outside of the Yukon;

12.4.2.5 alternatives to the Project or alternative ways of carrying out the Project that avoid or minimize significant adverse environmental or socio-economic effects;

12.4.2.6 measures for mitigation of and compensation for significant adverse environmental and socio-economic effects;

12.4.2.7 any significant adverse effect on Heritage Resources;

12.4.2.8 the need for a timely review of the Project;

12.4.2.9 the need to avoid duplication and, to the greatest extent practicable, provide certainty to all affected parties and Project proponents with respect to procedures, information requirements, time requirements and costs; and,

12.4.2.10 any other matters provided for in the Development Assessment Legislation.

(Source: Government of Canada. 1993. *Comprehensive Land Claim Umbrella Final Agreement*. Ottawa: Minister of Supply & Services Canada. pp.104-105).

to avoid duplication of environmental impact assessment processes in the Yukon.

Under the auspices of Chapter 12 in the UFA (1993), there are procedural and

information requirements stipulating the use of Yukon First Nation knowledge and experience on shared boards and committees which are to be established under the Agreement. This new, formal participatory role for First Nations puts them into more powerful positions in the decision-making arena. In turn, this potentially lends First Nations the opportunity to apply their knowledge in order to influence decisions regarding development that potentially affects them.

The UFA (1993) contains a variety of land regulatory processes where each has its own set of information needs. For instance, DAP requires data on project location, current land uses, the environment and its inhabitants, project alternatives, and environmental and socio-economic effects (Duerden and Kuhn, 1996). The Agreement identifies western and traditional knowledge as key information sources. This provides First Nations with the opportunity to influence decision-making processes by placing their values and world view at the centre of management approaches (Johannes, 1993; Shapcott, 1989). The importance of cultural perspectives and the value of TK are both recognized as core components to Chapter 12 of the UFA (1993).

2.6.1.3 Tripartite Discussion Process

Tripartite discussions are conducted between DIAND, YTG and CYFN to determine the content of DAP legislation that will be made into law. Although February 1997 was the initial deadline for developing a draft of DAP legislation, ongoing discussions have pushed this date back to December 1997. Once the draft DAP Act is tabled and passed by Parliament, a proclamation date will be set at which time the legislation becomes law.

The structure of the tripartite discussions is tiered. The 'DAP Core Group' leads the tripartite discussions where each of the three parties to the UFA (1993) send one key negotiator to the table. 'DAP Caucus Groups' compose the secondary level of the tripartite discussions. CYFN, YTG and DIAND formed their own caucus groups to provide broad direction on legislation planning to the 'DAP Core Group'. Information is collected and research is conducted by each caucus group to define their positions.

The focus of tripartite discussions is on policy. This approach entails identifying the aspects of DAP that require more design and development to make it operational. Discussions involve identifying the priority issues and concerns among the three parties which are then translated into legislation, and determining the detail to which they should be articulated. However, DAP legislation only states what is expected of the assessment process and does not address the mechanisms and procedures required to describe the inner-workings.

It is important to understand the political basis of DAP outlined in the UFA (1993), as jurisdictional and legal requirements will be entrenched in this document. Issues relevant to the procedural and information requirements of DAP need to be recognized and explored to identify areas of agreement and disagreement among the 'DAP Core Group'. These findings can then be used to formulate recommendations that will help guide the tripartite discussions to address key questions regarding operationalization, and provide insight into formulating policy for the Yukon.

2.7 Summary

This chapter provided an overview of factors contributing to the changing environmental assessment process in a northern context, including the Berger Inquiry, greater power of First Nations through land claim settlements, and recognition of traditional knowledge as another information source. Under the auspices of the UFA (1993), new challenges must be addressed in order to develop and implement an environmental assessment process that is relevant to First Nations. The purpose of this thesis is to examine the procedural and information requirements of DAP in order to propose recommendations for its implementations and operationalization, based on the input of key DAP players. Chapter 3 describes the methodology employed to address objectives one and two, which are to identify the criteria for the operationalization of DAP according to members of DIAND, YTG and CYFN, and to discuss the areas of congruence and difference among the three major players.

CHAPTER 3

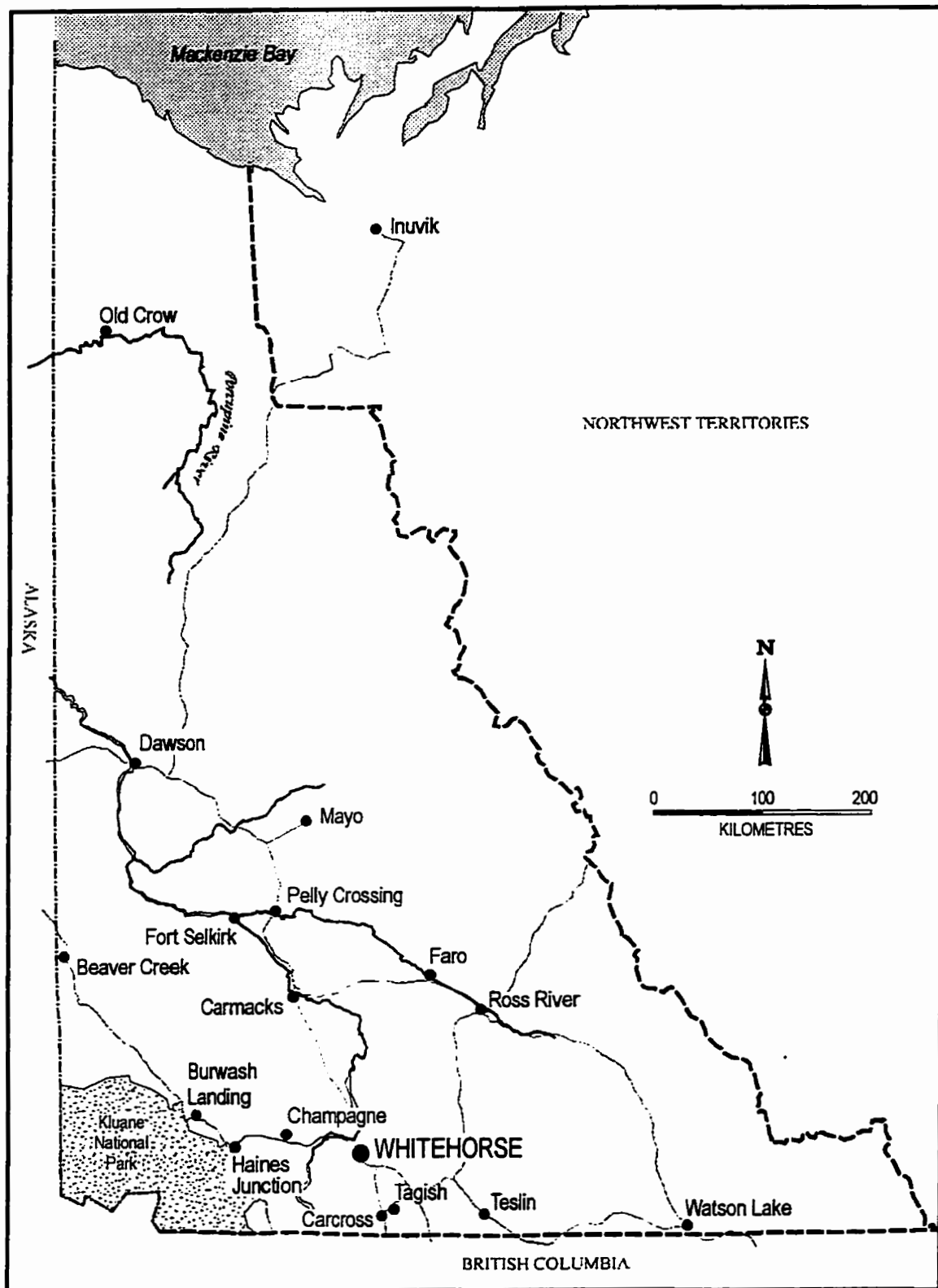
3.0 RESEARCH DESIGN AND METHODOLOGY

The Development Assessment Process (DAP) will be the first Yukon-wide impact assessment process negotiated and implemented by the three governing bodies in Yukon Territory; federal and territorial governments, and First Nations. The research approach employed to gather and analyse information obtained from organizations and individuals involved in the design and implementation of DAP is presented in this chapter. Data collection methods and analytical tools were determined by reviewing academic literature on qualitative analysis and drawing upon the experiences of researchers conducting work in northern regions. The methods used to develop interview questions and conduct interviews are first discussed, followed by a presentations of data organization and interpretation methods. A description of the study area is initially given.

3.1 Study Area

Whitehorse, the capital of Yukon Territory, was chosen as the main study site for the research. Fieldwork for the collection of primary data was conducted from June 2 to August 10, 1996 (Map 1). The population of Whitehorse is approximately 23,474 people, representing approximately 72% of the Yukon population (Bryant, 1996). The capital, situated in the southern part of the territory, is the location of several office headquarters including Council of Yukon First Nations (CYFN), various departments of the Yukon

Figure 3.1: Study Location



Territorial Government (YTG), and the federal Department of Indian Affairs and Northern Development (DIAND). Due to the numerous headquarters based in Whitehorse, this study location offered access to key individuals and to documentation from organizations involved in developing DAP policy. Documentation from government libraries and catalogues were also readily available for review, adding valuable supplementary information to the study.

Secondary field visits were also made to Dawson and Carcross. These trips provided first hand exposure to communities that will be involved in implementing DAP policy.

3.2 Data Collection

Two main data gathering techniques were used in this study to collect information regarding DAP design, and procedural and information requirements. These methods involved: 1) personal interviewing to elicit data concerning the operationalization of DAP, and 2) reviewing various published material in order to supplement field data.

3.2.1 Interviewing

During the nine week field season, a series of open-ended, semi-structured interviews were conducted with 21 individuals from various organizations. This interviewing style was chosen because alternative ways can be explored to obtain information and define areas of importance that may not have been thought of ahead of time (Sommer and Sommer, 1991). Due to the flexible nature of semi-structured

interviews, further lines of inquiry were often pursued depending on peoples' expertise, interests, and experience. The interviewing strategy involved identifying key informants and asking them a set of core questions (Appendix 1). Much research was done in determining prevalent issues relating to impact assessment and the Canadian north. Based on a review of the literature, issues integral to devising an innovative approach to impact assessment for two distinct cultures were ascertained and subsequently distilled into six major question areas. A summary of the rationale for selecting the topic areas (philosophy, information, participation, process, decision-making authority, and geographic context) is presented in Table 3.1. These six categories were derived from extensive literature review on impact assessment, northern resource management practices, native land claims, First Nation culture, and traditional knowledge. By asking questions on the same topic areas, information was systematically collected. This was imperative for later characterizing and discussing responses on the DAP process. As discussed in the next section, only the questions changed while each of the six question topic areas remained constant.

Development of Interview Questions

Semi-structured interviews incorporate a series of structured, focused questions that are developed in advance (Rothe, 1994). A long process was undertaken to devise the final draft of interview questions to ensure that information collected in the field would be relevant to the research goal of understanding the procedural and information requirements of DAP.

The first draft of questions was based on the six topic areas that appeared as key

Table 3.1: Rationale for selecting question topic areas.

Topic	Rationale From Literature	Sample Questions
Philosophy	<ul style="list-style-type: none"> • Important to know definitions and goals of impact assessment. Interpretations influence how procedures are carried out. • First Nations have their own knowledge and resource management systems. (Bowles, 1981; Smith, 1993; Wolfe, <i>et al.</i> 1992) 	<ul style="list-style-type: none"> • What does 'traditional economy' of Yukon Indian People mean? • Their 'special relationship' with wilderness?
Information	<ul style="list-style-type: none"> • Different knowledge types have important roles and contributions to impact assessment. Must learn how to include and apply them. • TK in impact assessment links ecological and social impacts. (Goehring, 1993; Johnson, 1992; Kuhn & Duerden, 1995; Okrainetz, 1994) 	<ul style="list-style-type: none"> • Can traditional knowledge reveal unique impacts? • Are there any barriers/ benefits to the use of TK in DAP? If so can you describe some?
Participation	<ul style="list-style-type: none"> • People influence the impact assessment process in various degrees at certain stages, ie. broaden scope of issues/ concerns to be addressed. (Durst, 1994; Gamble, 1978; Inglis, 1993; Sallenave, 1994) 	<ul style="list-style-type: none"> • At what points of the process should/ can the public be involved?
Process	<ul style="list-style-type: none"> • Understand the stages and issues associated with operationalizing impact assessment, ie. screening, review, conflict. (Duffy <i>et al.</i> 1996; Gilpan, 1995; Whitney & McClaren, 1985) 	<ul style="list-style-type: none"> • Will specific criteria be used to determine significant adverse effects? If so, can you describe some?
Decision-Making	<ul style="list-style-type: none"> • Native land claims play a major role in determining authority over land management. • Multiple accountability; different people affect how assessment is carried out. (Lee, 1984; Mulvihill, 1990; Swerdfager, 1988) 	<ul style="list-style-type: none"> • Do you know of any problem areas during DAP negotiations thus far? • Who primarily decides what information will be used?
Geographic Context	<ul style="list-style-type: none"> • Cultural groups have different concerns in resource management. Conventional assessment processes have limitations for use by First Nations, ie. conflict of values, world views. (Geisler <i>et al.</i> 1982; Mitchell, 1989; Shapcott, 1989; Tyler, 1993) 	<ul style="list-style-type: none"> • Are there any differences between DAP and previous impact assessment strategies in Yukon? If so, can you highlight some?

elements to understanding northern impact assessment processes. References to Chapter 12 of the UFA (1993) were also included, focusing on issues requiring further clarification regarding DAP procedures and information requirements. A comprehensive list of questions was drawn up and presented for review to academic professionals experienced in native culture, impact assessment, and research. Modifications were made and the second draft of questions was presented to government and First Nation representatives upon arrival to Whitehorse. Important comments were made regarding the content of the interview questions. As DAP tripartite discussions were only in the beginning stages, government and First Nation authorities indicated that some of the questions were too specific regarding DAP procedural and information requirements. Subsequent changes were then made to generalize some of the questions and a third version of the interview questions emerged. The fourth and final version of questions was determined after the first interview was conducted. Wording of a few questions was refined. Also, the questions were prioritized and then shortened to allow for a more manageable interviewing process.

Establishing Contacts

Approximately two weeks in the field were required before any interviews were conducted in order to gain familiarity with the government departments and political organizations involved in developing the DAP policy for the Yukon. Once the principal negotiators of DAP were identified, initial contact was made with some of these key informants. These preliminary meetings provided insight on the individuals researching DAP from each authority and on the procedures and structure of DAP tripartite

discussions. Interview participants were selected based on their experience with DAP, familiarity with northern environmental procedures, and their availability. In order to elicit a range of responses, emphasis was placed on meeting individuals who were involved in different components of DAP, such as legal negotiations, procedural requirements, and DAP design. It was understood that the responses represented a collective snapshot of DAP policy in its progressive stages. A total of 21 participants representing 11 different agencies were contacted and participated in the study (Table 3.2).

Given the purpose of this research, to examine the procedural and information requirements in order to facilitate the implementation and operationalization of DAP, individuals needed to be contacted that were knowledgeable and involved in designing DAP policy. The sample of study participants ranged from the parties to the UFA (1993) to independent groups. Interviews were conducted with members of the 'DAP Core Group' (4), Managers (4), Senior Advisors and Department Chiefs (5), Researchers (4), Planners (2), and individuals from the private sector (2). In comparing the sample groups summarized in Table 3.2, it is evident that the representation of participant views regarding DAP procedural and information requirements was well distributed.

Potential interviewees were usually met in person prior to conducting the formal interview. These initial meetings lasted between twenty minutes to an hour and presented the opportunity to exchange information on research goals and the individuals' knowledge and familiarity with assessment processes in the Yukon. It was felt that this approach of meeting people, introducing personal research and snowballing contact names, helped to establish an open relationship with the participants.

There was some difficulty contacting people involved directly with DAP. One reason was that the tripartite discussions only began in June. At this point very few

Table 3.2: Overview of groups interviewed.

	Code	Position
First Nations	4D	DAP Coordinator, CYFN, Whitehorse, Y.T.
	8H	Environmental Coordinator, CYFN, Whitehorse, Y.T.
	9I	DAP Negotiator, CYFN, Whitehorse, Y.T.
	10J	Resource Researcher, Kluane First Nation, Burwash Landing, Y.T.
	11K	Resource Researcher, White River First Nation, Whitehorse, Y.T.
	14N	Lawyer, DAP Negotiator, CYFN, Whitehorse, Y.T.
	19S	Heritage Planner, Kwanlin Dun First Nation, Whitehorse, Y.T.
Yukon Territorial Government	1A	Lawyer, DAP Negotiator, Whitehorse, Y.T.
	2B	Senior Planner, DAP Coordinator, Economic Development, Whitehorse, Y.T.
	3C	Assistant Deputy Minister, Economic Development, Whitehorse, Y.T.
	6F	Implementation Analyst, Land Claims Secretariat, Whitehorse, Y.T.
	13M	Implementation Analyst, Land Claims Secretariat, Whitehorse, Y.T.
	17Q	Manager, Environmental Protection and Assessment Branch, Whitehorse, Y.T.
	18R	Researcher, Economic Development, Whitehorse, Y.T.
Federal Government	5E	DAP Manager, Project Manager, Environment Directorate, Whitehorse, Y.T.
	15O	Project Manager, Environment Directorate, Whitehorse, Y.T.
	16P	Environment Assessment Officer, Environment Directorate, Whitehorse, Y.T.
	20T	DAP Research Assistant, Environment Directorate, Whitehorse, Y.T.
Independent	7G	Principal Consultant, Whitehorse, Y.T.
	12L	Director, Yukon Conservation Society, Whitehorse, Y.T.

people were part of, or had an interest in, the negotiation process. Effort was made to meet first with federal and territorial government, and CYFN representatives participating in DAP negotiations. Contact was then made with individuals affiliated with these groups that were involved in preparing positions on DAP.

Recording Interview Responses

Length of interviews varied between one and three hours, with the majority lasting approximately two hours. In some cases, interviews were carried out in segments due to participants' time limitations. Each participant was asked the same set of questions and then asked for their personal insight or opinion based upon their knowledge and experience. Since DAP was in early stages of development, most participants did not want their responses to reflect the organization they were affiliated with unless otherwise stated. Recording of responses was done by note taking during the interview. Attention was given to recording the responses as accurately as possible with minimal interpretation. Interview notes were typed immediately into a word processor and telephone contact was made if further clarification was required.

3.2.2 Literature Review

The second technique used to collect information consisted of reviews of published and other printed materials. Interview data were supplemented by a detailed review of government documents and relevant literature while in the field. The focus of literature searches were twofold. First, legal documents such as the UFA (1993) and its related DAP components, were consulted. Second, material on northern EIA was studied in order to become familiar with the intricacies of environmental management, decision-making, land use, and First Nation involvement in the Yukon.

Several primary and secondary sources were consulted while in the field; Environmental Impact Statements, Environmental Assessments, consulting reports,

government publications, conference proceedings, and other published material. Literature searches were carried out at Yukon Archives, federal government library, territorial government library, government offices, and Yukon Conservation Society.

3.3 Data Analysis

Data analysis is the process of bringing order, structure and meaning to the mass of collected data (Marshall and Rossman, 1989). The key is to bring the data into functional parts, so that relationships and patterns within the data will emerge. In order to achieve this, methodology adapted from grounded theory was applied to the responses obtained from participants.

Grounded theory (Marshall and Rossman, 1989; Strauss and Corbin, 1990) enables the researcher to systematically group data while making them easily retrievable and handled. Founded in qualitative analysis, the aim is to search for general statements about relationships among categories of data and build grounded theory, or knowledge created from the data. Understanding of the data is gradually revealed as groups and categories appear to be linked with one another and transformed into something more meaningful. This strategy requires the researcher to review and reflect on data collected, especially as concepts, ideas and explanations begin to emerge. It is these 'insights' revealed from studying the data over time that fully describe and explain the information.

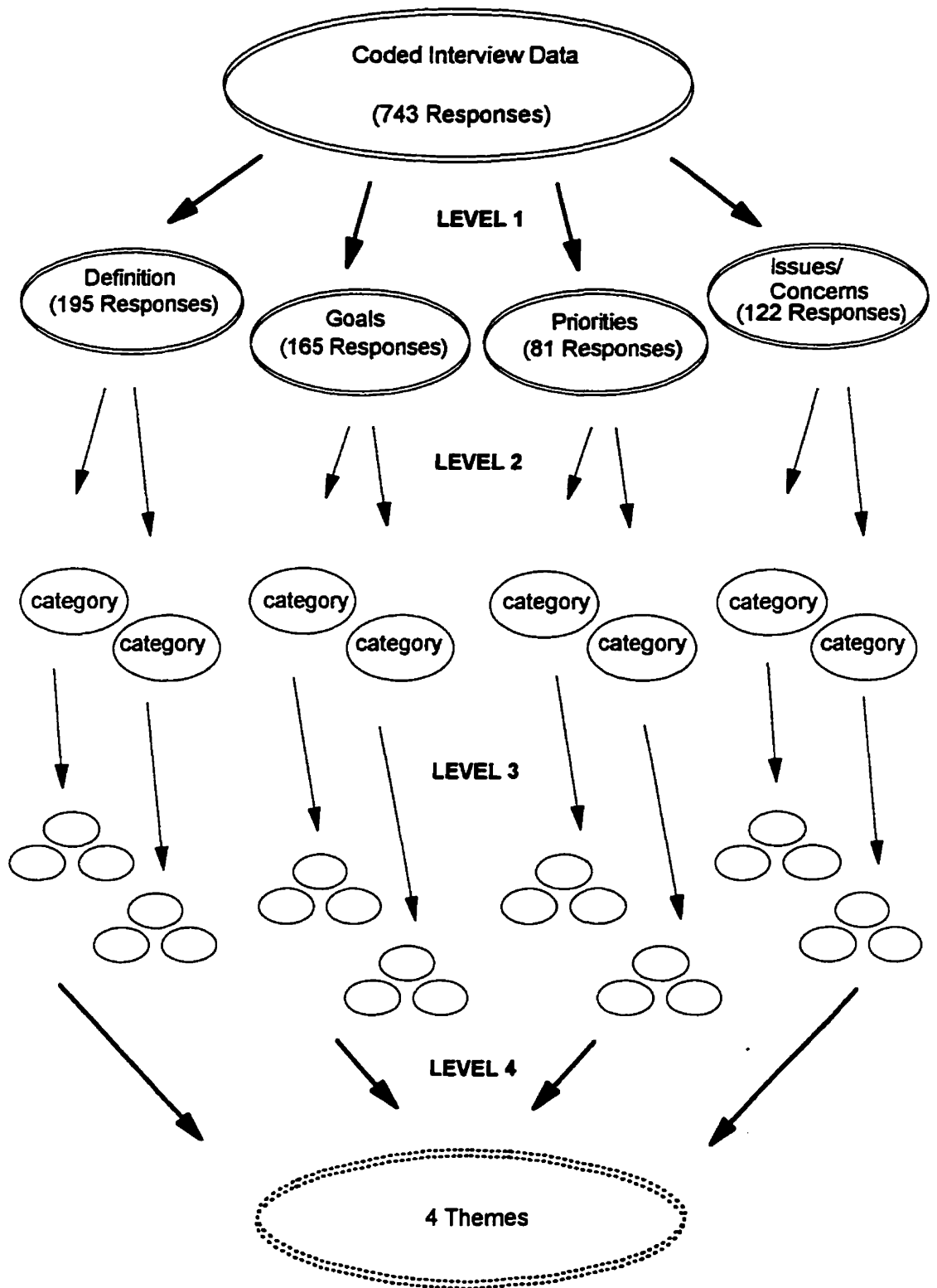
Methodology for data analysis is adapted from grounded theory and is composed of three stages: 1) data organization (coding and grouping), 2) identifying relationships from the data, and 3) analysing relationships within the data. The first step is to organize the data into manageable groups of varying level and size (depending on the specificity

of the data itself) so they can be easily studied, compared, and assessed in relation to the entire data set. Figure 3.1 summarizes the major levels of data organization, providing a conceptual understanding of the methodology applied to the primary data. Before data analysis was undertaken the participants' responses were coded. A different label was assigned to every main comment provided by each participant for every question asked of them. There were 743 labels in total representing the participants' collective responses. After reflecting on the data, however, it was determined that only 563 coded responses related to the purpose of this research. The purpose of this exercise was to initially tease out information relevant to the purpose of this study. Examples of comments deemed not pertinent, related to topics such as land use planning, tourism, and detailed ongoing environmental assessment cases.

The first level of organization involved taking all 743 responses obtained from the participants and streaming the relevant comments into four topic areas pertinent to understanding policy. The theoretical and practical reasons for selecting the initial four categories of *definition*, *goals*, *priorities*, and *issues and concerns* is discussed in the following chapter. A total of 563 comments were identified and organized into these categories. The distribution of responses reflected in each of the groups was 195 in '*definition*', 165 in '*goals*', 81 in '*priorities*', and 122 in '*issues and concerns*'.

Responses grouped into this first level of data were reviewed and organized into a second level of categories on the basis that they related to a common topic, or property. Each 'property group' reflected response data that shared common characteristics, such as a group of responses relating to legal aspects of the Development Assessment Process. Level three involved further categorization of these 'common property groups' into another level of common property groups, or sub-categories. Basically, the method

Figure 3.2: Methodology for assessing and organizing data responses.



entailed the reduction of responses into main categories centred on this research, from which sub-categories were formed, which were further organized into another level of categories. Level 4 represented the second and third steps of data analysis on participant responses, where 'desegregated' information was rebuilt back up into major themes. Data reduction enables the researcher to study the data for relationships. By looking for patterns of similarities and differences between the categories of data, underlying insights from the participants regarding DAP were ascertained and consolidated into themes. These themes, or "constructs", represented an abstraction of the data on a conceptual level which summarized the categories of data and their properties. Constructs provided a means to extract the necessary 'hidden' information in the data to explain the relationships and patterns, which were then used to base recommendations regarding DAP policy formation and implementation.

One issue associated with analysing qualitative data is reliability. Reliability refers to the extent which similar results could be obtained by a researcher using another's methodology (Rothe, 1994; Sommer and Sommer, 1991). Results from this research would most likely not be replicable in the field. The approach of semi-structured interview design asked each participant the same questions, however, the order and extent to which they were pursued differed. Flexibility was afforded in changing the wording to better fit the respondent or situation. This style was more suitable for obtaining in-depth information.

An important reminder during data analysis is the treatment of qualitative data during analysis (Kimmel, 1988; Masuzumi and Quirk, 1993). It was assumed that all data collected from interviews had integrity, and therefore, all data were treated equally during analysis regardless of its source.

In summary, this process was undertaken as a means to explore, reveal, and analyse pieces of knowledge that were 'hidden' within data. The research topic generated numerous comments about the nebulous nature of DAP regarding its application, where the 'answers' to the 'questions' were unknown at the time of interviewing. Data analysis adapted from grounded theory was chosen because it structured the research problem and provided a means to discover, sort, and discuss the key informants' beliefs, attitudes, needs, and goals on the Development Assessment Process. The next chapter provides a detailed description on how data were organized, compared, and assessed in order to discern relationships. A detailed description of the implications of participant views to the research question is presented through stage 3 of the analytical process.

CHAPTER 4

4.0 DESCRIPTION AND ANALYSIS OF PARTICIPANT RESPONSES

This chapter provides a detailed description of the data analysis and results. The comments obtained from the twenty-one key informants belonging to DIAND, YTG, and First Nation organizations, were varied and spanned over several issues relating to the Development Assessment Process (DAP). The approach undertaken to meet objective one, identifying criteria for the operationalization of DAP, was in accordance with grounded theory. Data were broken down, conceptualized, and put back together enabling underlying constructs to emerge from the collected data. In order to meet objective two, outlining similar and different opinions on DAP procedural and information requirements, the resulting constructs were used to structure and compare the participants' views with respect to the implementation of DAP.

In relation to grounded theory, the stages of analysis consisted of organizing the data, identifying emergent patterns, and analysing the relationships among the participant responses into underlying themes, or constructs (Marshall and Rossman, 1989; Strauss and Corbin, 1990). A detailed examination and presentation of research findings structured around the ensuing constructs is given later in this chapter.

4.1 Stage 1: Organizing Data Responses

The first stage of analysis involved coding and grouping data into manageable

sized groups. It was critical to be familiar with the data, and therefore, interview responses were read over many times prior to assessing the data.

Coding

Interview responses were coded according to the six main question areas asked, where each had a separate set of questions (Appendix 1). For example, a coded response from a participant might appear as A(Y)2.1. The 'A' specifies that it was the first interview conducted. The '(Y)' means that the person is associated with the Yukon Territorial Government. The numerical part of the label records the particular question asked of each topic area. In this case, '2.1' pertains to the first question under the information component of the interview schedule, which is the second major group of questions. Coding of participant responses to specific questions helped to keep clear records of the original data, along with preparing the data for easy handling in the next steps of categorizing the data.

Responses from participants were coded as belonging to more than one question area when they related to other questions covered in the interview. This was part of the ongoing data checking and verifying.

Grouping

Once all of the interview responses were assigned appropriate labels, the next step involved grouping or, categorizing the data. This exercise entailed reducing the data into three different levels of categories based on common properties. The aim was to

specify categories in terms of their own sets of properties.

The first set of categories applied to the complete field data set were broad, yet served the purpose of selecting and organizing information into four areas fundamental to understanding policy. As this research dealt with three groups of people responsible for establishing DAP policy, it was important to present the various positions on DAP based on their different priorities, values and attitudes. Policy analysis in resource management allows researchers to study processes by which resources are allocated. Although this work did not actually evaluate existing policy, it still required an understanding of the fundamental components of policy in order to make recommendations for DAP policy. Consequently, the categories chosen to extract and organize data into the first level of manageable groups were *'definition'*, *'goals'*, *'issues and concerns'*, and *'priorities'*. Theory from the literature suggested that these four foci provide structure and direction to policy analysis by focusing research on the basic elements that characterize policy (Mitchell, 1989; Patton, 1986; Portney, 1986). These areas of DAP are not yet confirmed among the key players as the Development Assessment Process is in the conceptual stages of design.

'Definition' was selected as one of the categories to uncover participants' ideas on what 'DAP is'. An example from the data are responses referring to a new cultural component being introduced by DAP. Responses relating to the *'goals'* category described what 'DAP should or will accomplish'. Many participants spoke of DAP giving equal consideration and use of potential information sources, especially of scientific and traditional knowledge. The third category used to order responses was *'issues and concerns'*. This category referred to participants' perceptions on any 'problems,

weaknesses, unknowns, or negative aspects' of DAP. *'Priorities'* represented the fourth category, dealing with the fundamentals of DAP policy. Responses in this category characterized DAP in terms of what 'it requires'.

Once the first set of categories was established and relevant interview data sorted accordingly, the task of organizing data into further groups for analysis was undertaken. The four initial categories were assessed to see if any subcategories emerged. Again, the process entailed close examination of the data to identify concepts or ideas that pertained to a similar phenomenon. These concepts were then grouped, and subsidiary categories were distinguished based on similar properties found within a category, and differences exhibited between categories. Figure 4.1 illustrates how the data were eventually grouped into three levels of categories.

DAP is shown as the 'core' category to which all the others relate. As data were reviewed and sorted into the four initial categories, groups of similar concepts began to emerge within each. These groups constituted the basis of subcategories. For instance, the category *'definition'* was broken down further into four subcategories. The *'legal'* subcategory described observations characterizing the expectations and requirements that DAP has to meet according to the law. Responses under *'process'* generally related to the procedures associated with the functioning of DAP. *'Deficiencies'* identified responses that stated any weaknesses or limitations, such as the lack of a method for incorporating traditional knowledge. *'Scope'* referred to the range of topics or issues to be addressed by DAP policy, giving a sense of boundaries to the impact assessment process.

After organizing responses into the second level of categories and reflecting on

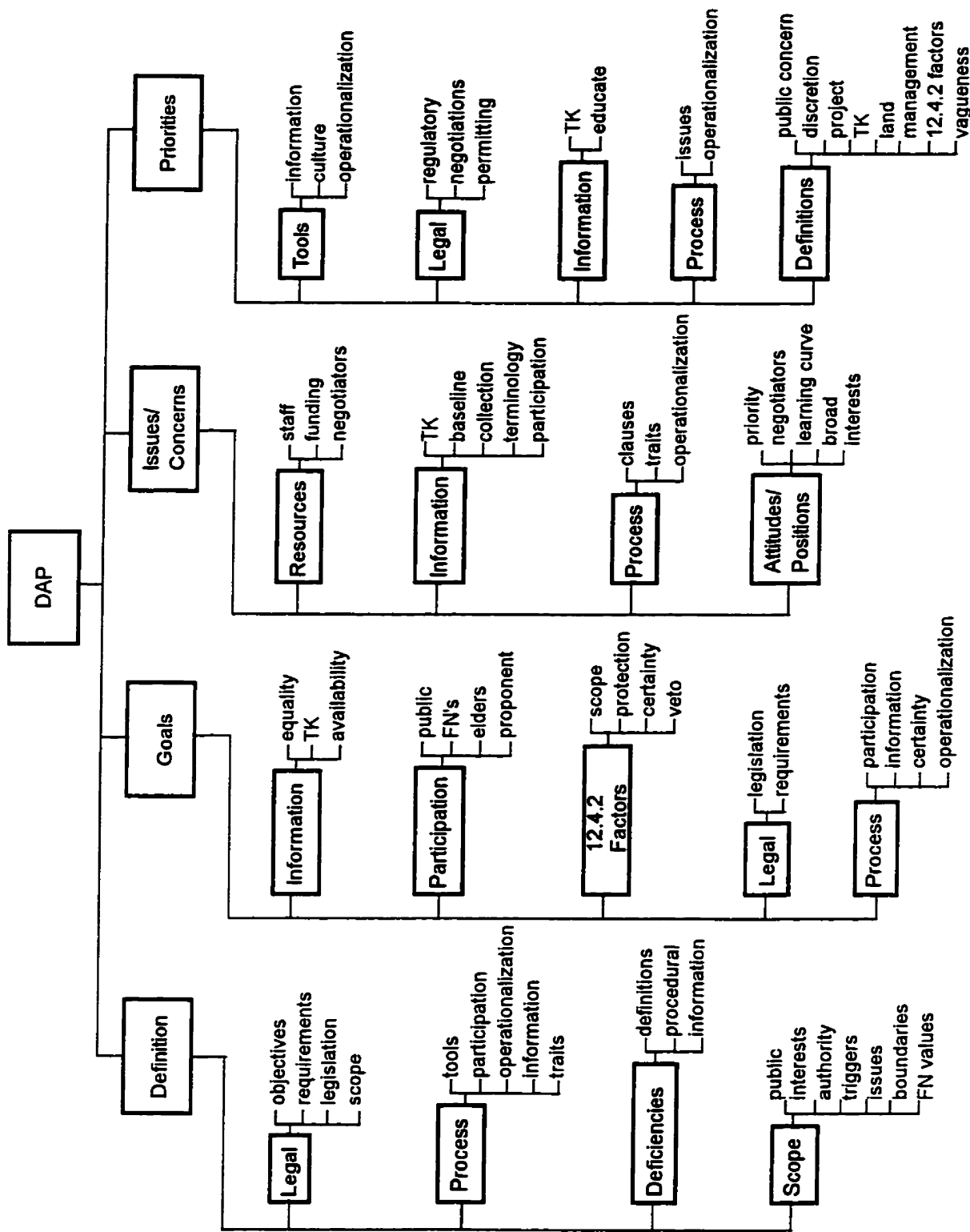


Figure 4.1: Categorization of interview responses based upon common properties.

them, it was discovered that further data reduction could be conducted. The same method of specifying categories in terms of their specific sets of properties was undertaken. Figure 4.1 illustrates the third level of subsidiary categories that were established.

At this juncture, only an outline organizing participant responses based on common properties has been completed. Categories based on participants' insight were identified where the categories were internally consistent, yet viewed as distinct from one another (Marshall and Rossman, 1989). The next step of analysis according to grounded theory was to assess, compare and describe the patterns and relationships evident within and between the groups.

4.2 Stage 2: Identifying Emergent Relationships

Data had undergone reduction and needed to be reassembled in a new way in order to gain a conceptual understanding of participant responses. The second stage of analysis focused on studying and reflecting on the categorized data to see if any patterns or relationships emerged. Systematic grouping of data facilitated the comparison process of looking for patterns of similarities and differences. By searching for general statements about relationships between the categories, themes were discerned that captured the specific issues 'grounded' within the data. This is the heart of grounded theory analysis; discovering and specifying differences as well as similarities among and within categories (Strauss and Corbin, 1990).

Patterns reveal how subcategories are arranged around the core category, DAP. This process of relating subcategories to a category was achieved by questioning and

comparing data constantly to see if any similarities and differences emerged. Attention was given to identifying salient themes, which are reoccurring ideas and patterns of belief, or, opinion that link responses together. By reflecting on these data, patterns embedded in the responses were discerned and concepts and relationships determined. It is through this exercise of checking and re-checking the data that makes it 'grounded'.

Four matrices were constructed to facilitate the identification of patterns and themes within the data. This exercise placed data in a physical relationship to each other according to each of the four initial categories; *'definition'*, *'goals'*, *'issues and concerns'*, and *'priorities'*. Each matrix listed the three groups interviewed on one axis (First Nations, YTG and DIAND), and listed the subsidiary categories of a first level category on the other axis. Comparisons were made separately for each matrix where interrelationships between the subcategories and key players were sought. The result was theme areas characterizing the participants' perspectives on DAP, based on issues and patterns which emerged from each of the four initial categories of data.

In summary, the purpose of this exercise was to locate patterns and themes embedded in the data. This step served as the foundation for the final stage of data analysis; to develop constructs to capture the 'unspoken' themes.

4.3 Stage 3: Analysing Relationships Within the Data

The third stage of analysis according to grounded theory was analysing and consolidating the relationships among the categories of data into overarching themes, or constructs. This stage involved rebuilding the data into meaningful relationships, characterizing the patterns and links that emerged between the three study groups and

the categories. Ultimately, these relationships were captured under constructs which represented the 'unspoken' underlying themes embedded in the categories. In this section, the process employed to create the constructs is described, followed by a discussion of the data according to the constructs.

At this point in the analysis, categories have been worked out in terms of their salient properties and associated relationships. The next step is to formulate some type of conceptual understanding in relation to the research purpose; examining the procedural and information requirements of DAP for its implementation and operationalization. Integrating ideas from data responses at this stage is different from grouping properties of categories into subsidiary categories in the sense that it was done at a more abstract level. The approach was to systematically relate the core category to the other categories by developing constructs to help explain the data.

Establishing Constructs

A construct refers to a collection of thoughts that are coalesced into an overarching theme, truth, or impression (Cayne *et al.*, 1988). Although constructs are not directly measurable, they are a way of building individual thoughts, ideas and topics into an interpretation that brings meaning to the data in a theoretical context. They allow for insightful analysis of results. The building of constructs represented the last stage in data analysis of managing participant responses. Data were first organized into a specific array of categories, forming relationships within the data set. These relationships revealed congruencies and differences in opinion from the key groups. Underlying meanings were articulated and captured under constructs, representing data

characteristics at the conceptual level.

Development of the constructs involved taking the categories and the emergent relationships identified in the first two stages of analysis and discovering a theme or themes embedded in each. The researcher is guided only by an initial set of concepts in the first stage of analysis, where the continual studying of data and organizing of ideas into meaningful categories, eventually leads to their consolidation into overarching themes or 'constructs'. These constructs represent an abstraction of data on a conceptual level, providing a summary of the specific information revealed through categorizing the data and the properties that emerged. The constructs provide a means to explore and discuss the participants' perspectives around key areas to the operationalization of DAP. Figure 4.2 illustrates the four main conceptual themes that emerged from the data. Issues 'hidden' within the categories of respondent information are reflected in the constructs of *'culture'*, *'power'*, *'participation'*, and *'knowledge'*.

DAP is the focus of this investigation, and therefore, is the centre of Figure 4.2. The next layer surrounding DAP represents the four categories of DAP policy; *'definition'*, *'goals'*, *'issues and concerns'*, and *'priorities'*. Subsidiary categories located in the second ring around DAP describe the common property groups that emerged from within each of the first sets of categories. Essentially, these subcategories are a result from the data being arranged into groups based on their own intrinsic qualities, identifying matters of importance to DAP. Upon further examination of the data, details and themes embedded in the categories and subcategories became apparent. Subsequently, the four constructs emerged, as shown by the third ring in Figure 4.2. Further explanation of each construct is given later in this chapter.

It should be noted that the range of the constructs did not correspond exactly with

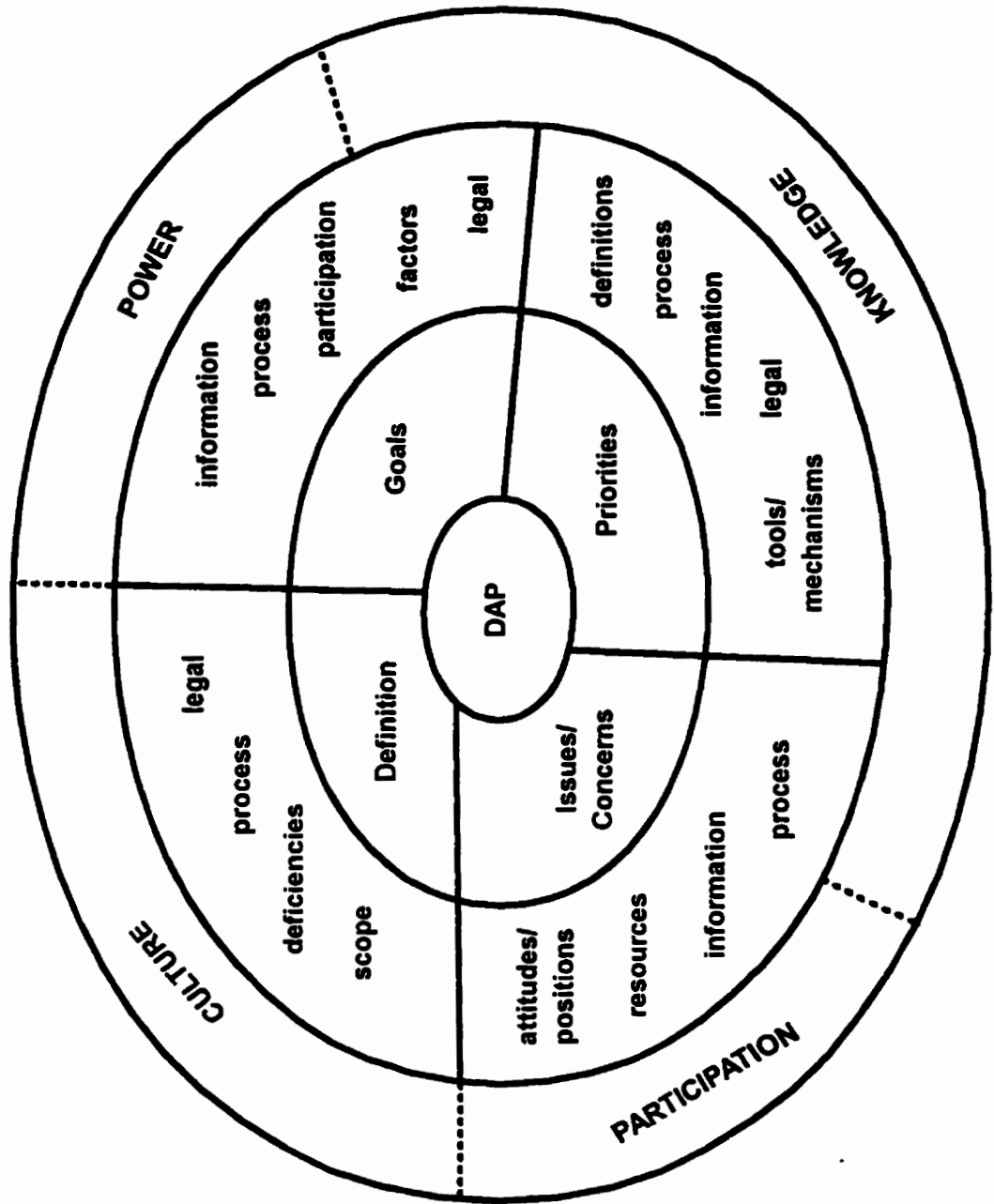


Figure 4.2: Categorization of DAP properties and their resulting constructs.

the 'boundaries' of the DAP categories. Overlapping of the constructs occurred because they represented over-arching themes found within the data. Although *'knowledge'* was identified as the main construct for DAP *'priorities'*, it also extended partially into the categories under DAP *'issues and concerns'* and *'goals'*. Responses in these latter categories also related to topics surrounding traditional knowledge, and therefore, were distinguished by two constructs which included *'knowledge'* as one of them. Furthermore, the dashed lines delineating the four constructs was done so intentionally. This suggested that linkages exist between all of the constructs and that they should not be viewed as separate entities. For example, *'knowledge'* and *'culture'* are inextricably tied to one another. Different groups acquire knowledge according to the cultural norms and perspectives characteristic of their surroundings. Consequently, different cultural groups possess different lifestyles and values, and therefore, will have varied ideas and priorities regarding resource management. *'Culture'* is also related to *'power'*. Yukon First Nations are recognized as a distinct cultural group in northern Canada. For the last few decades, First Nations have been struggling to regain political control of lands through the settlement of land claims. It has been a goal of First Nations to shape and build their own future based upon their own past.

Another interrelationship exists between *'power'* and *'participation'*. Part of the struggle for First Nations has been to attain positions in decision-making processes that provide them with opportunities for increased participation. Varying degrees of *'participation'* for groups of people in management regimes also influences the use of *'knowledge'*. People in authoritative positions not only decide what types of knowledge to use, but when to apply them and to what extent.

In summary, the constructs represent four principal themes reflective of participants' interview responses regarding DAP. Shape and meaning is given to a vast collection of original data. This conceptual level of information subsumes the specifics of, and perspectives on, DAP as offered by the twenty one study participants. The constructs depict what DAP represents on an abstract level.

In the next sections, specific examples characterizing the relationships and patterns of participant responses are provided for each construct. The constructs act as reference points in determining and evaluating similarities and differences among the First Nation, YTG, and DIAND participants. Issue identification is based upon responses representing either two or three of the organizations demonstrating similar or opposing viewpoints. Not only is it important to discern areas of congruent opinion for tripartite discussions, but areas showing difference are equally important as they highlight issues needing further examination and help to avoid potential conflict.

4.3.1 Culture Construct

The first construct, '*culture*', draws upon respondents' views that reflect issues surrounding the different lifestyles of Yukon residents. An underlying concern noted by the respondents was how the 'new' cultural component of DAP would be accounted for in both the legal and procedural aspects. DAP represents an impact assessment process that must now deal with cultural issues in addition to social, economic, and environmental ones. Responses from the participants suggested that this new 'cultural extension' will influence many facets of impact assessment, such as participation, use of traditional

knowledge, and a broadened scope of potential impacts. Respondents also indicated that many questions remain about the specific procedures in relation to culture. Examples of these issues include how traditional knowledge will be incorporated, whether DAP will be able to balance protection with development, and, if the s.12.4.2 factors can be adequately addressed.

Identifying Similarities and Differences

All of the participant groups were in agreement that First Nations have a formal role in the Development Assessment Process. Both YTG and DIAND participants described the First Nations' position as *"coming over to the other side of the fence"* and now having to work together in an administrative context. Their new, formal role as assessors in project reviews affects the nature of decision-making and the resulting outcomes for resource management in Yukon. As one respondent explained, *"First Nations' role in DAP is very different then that of CEAA [Canadian Environmental Assessment Act], now both the government and First Nations will always be involved in reviews"*. This introduces a new layer of cultural concerns into DAP, including additional information that needs to be interwoven into the assessment process (Table 4.1).

The application of traditional knowledge is one component of the assessment process that highlights significant cultural issues. All three of the respondent groups acknowledged the close link between First Nation participation and the ensuing use of their knowledge. First Nation participants shared the opinion that the use of their knowledge will help legitimize their perspectives on resource management to people who

Table 4.1: First Nation, YTG, & DIAND Perspectives Regarding Culture

Similarities	Differences
<ul style="list-style-type: none"> ➤ sensitivity to cultural issues will increase due to the formal role of First Nations and the expected use of TK ➤ a broader scope of impacts (cultural, social, environmental, economic), must be addressed during project reviews ➤ Yukon organizations responsible for designing and implementing DAP are learning how to work with one another 	<ul style="list-style-type: none"> ➤ placement of DAP objectives from Chapter 12 into legislation versus regulations to assure consideration of cultural impacts ➤ whether DAP is able to balance the protection of culture & the environment while allowing development ➤ ability of DAP to address the issues contained in s.12.4.2 of Chapter 12, emphasizing cultural values and traditions

are trained in the western culture. One respondent explained that *"Where the science reductionist method once dominated, you now have traditional knowledge that brings a balance to the picture"*. It was generally agreed that an improved assessment process will result if TK is employed and therefore, impart more holistic views to assessors and decision-makers.

The recognized and expected use of traditional knowledge by government bodies revealed a consensus among respondents that DAP will address a broader scope of impacts during project reviews. Potential impacts must include those of a non-physical nature, such as spiritual, in addition to historical and traditional First Nation land uses. Participants realized that working definitions must first be established. One respondent remarked, however, that *"traditional knowledge is a concept that has many different*

interpretations due to people's perspectives being derived from their own cultural context".

The combination of knowledge and experience acquired with time was identified as another common issue among respondents relating to culture. Participants concurred that they were trying to learn how to work with one another in order to develop and implement new policies. First Nations have had to learn and understand the bureaucratic aspects of the UFA (1993). A CYFN member explained that *"First Nations have had to learn the specifics of operating in a more formal setting and Westerners have had to learn to become more flexible in the way in which things are done"*. It was agreed that certain problems and specific questions would emerge after legislation had been developed. Culture evolves over time, and therefore, related issues and concerns may also arise. Participants reasoned that DAP must be flexible to accommodate unanticipated issues encountered in the future.

The placement of DAP objectives in either legislation or regulations was a point of contention among the participants. Although there is no binding clause in Chapter 12 of the UFA (1993) that calls for the mandatory use of First Nation knowledge and experience, it is clearly outlined in s.12.1.1.2 of the objective section. First Nation and government respondents both viewed the DAP objectives as liberal interpretations of values and principles, meant only to guide the formulation and implementation of policy. Some First Nation participants maintained that the objectives should be written into the legislation. This would help to ensure the incorporation of their knowledge and experience in the assessment process and therefore, support the protection of their culture. Other government respondents felt that the objectives should be drafted into regulations because future amendments would then be easier.

The issue of whether DAP would achieve development and protection in a responsible manner elicited mixed opinions from all participants. A YTG representative stated that DAP *"represents a regulatory process that formally and legally provides the means for protecting and giving structure for guiding development in Yukon Territory that is sensitive to the needs and priorities of both cultural groups, Western and First Nation"*. This perspective was further supported by a DIAND participant who said that DAP represents *"a means to protect the culture of First Nations residing in Yukon Territory"*. A First Nation participant, however, stated that the process would fail to protect the environment because it would deter land use planning processes from achieving the goal of planning development according to regional needs. Yukon government members stated that it was important to keep a balance on the continuum of protection and development. One YTG respondent felt that too much focus was being placed on the cultural component of DAP, and therefore, supported development. Overall, DAP was viewed as a process that provided an opportunity to establish a formal structure that would protect the lifestyle, health, and needs of Yukon First Nations.

Several sections in Chapter 12 of the UFA (1993) promote the use of First Nations' cultural values and traditions by making the integration of native values in the management of proposed projects mandatory. Disagreement among the study participants focused on the issue of whether DAP would be able to adequately address s.12.4.2 of Chapter 12; to protect the cultures, traditions, health, lifestyles of First Nation and Yukon residents along with protecting First Nation interests and their special relationship with the wilderness. One YTG respondent expressed concern that s.12.4.2 would place too large of a focus on the cultural aspect of impact assessment. Eventually, DAP would become paralysed as an assessment process due to the inclusion of all issues

involving culture. Another YTG respondent, however, did not feel this was an issue, maintaining that *"12.4.2 factors must be considered for any project proposal as they include traditions and actions from a cultural perspective, while setting bounds on the process to keep it manageable"*. However, another respondent felt strongly that impact assessment should not be used as a cultural tool because *"it is a predictive game where the cultural component is unknown"*. First Nation participants expressed an opposite view. They strongly advocated the use of their traditional knowledge and experience as a means to inject their cultural concerns into the DAP process.

Insights acquired from the participants' responses relating to the *'culture'* construct illustrated similar perspectives among DIAND, YTG and First Nations. These issues included an increased sensitivity to cultural issues, a broader scope of potential impacts that must be addressed by the proponent, and the parties to the UFA (1993) learning how to work with one another within the DAP regime. Major areas of differing opinions also emerged from the data, which consisted of the legal status of the DAP objectives, the viability of cultural protection and development, and, the ability to account for s.12.4.2 issues.

4.3.2 Power Construct

The *'power'* construct brings together participants' comments primarily surrounding the *'goals'* of DAP. Issues depicted in this construct centre around respondents' concerns regarding the equality and responsibility of key players, the extent of First Nation

participation, independence of the process, and the priority of DAP among the tripartite group.

Identifying Similarities and Differences

Participants from all three organizations stressed the importance of equality among key players (Table 4.2). Tripartite discussions were influenced in the sense that one group would not bend from their position if it was thought to give the other parties a stronger position. In the context of operating procedures, political power relations have been altered. For example, respondents referred to projects being vetoed based solely on cultural components. That is, a proposed project could be turned down if a proponent was unable to show a way of mitigating impacts that would jeopardize any of the factors outlined in s.12.4.2. One respondent also observed that as equal status is accepted conceded as a common goal by the key parties, then, *"perhaps the validity of traditional knowledge will become accepted more widely by bureaucrats"*.

A second area illustrating common opinion was that formal participation of First Nations would strengthen their positions as environmental decision-makers. All those involved in impact assessment in the Yukon would be accountable to First Nation values and beliefs. CYFN's formal role obliges First Nations to become involved in various stages of impact assessment through their participation on various boards and committees. One member explained that the *"CYFN now has the role to collect information, make recommendations, enforce them, and to monitor"*. For instance, all of the participant groups noted that First Nations were now a permitting agency on

Table 4.2: First Nation, YTG, & DIAND Perspectives Regarding Power

Similarities	Differences
<ul style="list-style-type: none"> ➤ equality among all government groups in DAP design and operating procedures ➤ formal decision-making positions of First Nations in DAP give them greater control & say in resource management ie. permitting agency for Settlement Lands ➤ all government groups must be accountable and responsible when conducting DAP ➤ hire independent staff for DAP advisory boards and committees 	<ul style="list-style-type: none"> ➤ whether First Nations, having equal standing with western environmental managers in DAP positions, will guarantee the inclusion of native concerns ➤ independence of First Nations in DAP operating procedures; to be included systematically in all components, or, excluded for technical aspects ➤ priority of DAP is different for the tripartite parties discussing policy

Settlement Lands. From a native perspective, this means that they have local control over development initiatives, diminishing DIAND's authority over them. From DIAND's perspective, this means that First Nations will have to establish a regulatory permitting process. Overall, the view held by many respondents was that the substantive power of First Nations in land management was achieved through their new extended participation in impact assessment.

Accountability and responsibility was a third issue identified by the study groups that related to power. First Nations, YTG and DIAND held similar views that accountability and responsibility needed to be recognized by each agency as a goal in designing and

implementing DAP policy. A YTG participant explained, *"People in positions of power have concerns that other people in similar positions will abuse their power"*. In addition to governing bodies being responsible, they must also be accountable. Some participants pointed out that, *"DAP boards must be accountable, be able to justify decisions, including assessors and regulators of DAP"*. For example, several sections in Chapter 12 of the UFA (1993) stipulate that recommendations and decisions made by DAP structures are in writing with reasons, and that information is made available to the public. As YTG and DIAND have had much more experience in conducting impact assessments, a YTG participant observed that First Nations are learning to gain control, and, *"are choosing to undergo healing² to aid them in their transition phase"*.

Staff independence for DAP committees was the fourth issue deemed important by First Nations, YTG and DIAND. Equal participation of the three governments in DAP design, implementation, and operation was a priority because it would create a level 'playing field', resulting in a fair assessment process for all Yukon residents. To maintain this balance of power, participants stressed that staff hiring should be done outside of government staff or from existing organizations. Advisory boards outside of the legislated structures, such as Technical Advisory Committees (TACs), would be less likely to have any biases or hidden agendas.

Participants held opposing views as to whether First Nations' equal standing with western resource managers in DAP would guarantee the inclusion of native concerns. First Nations now have greater opportunity to influence decision-making in the Yukon.

²Refers to activities such as regaining contact with the land.

One YTG respondent noted *"First Nations are now key players in decisions regarding project approval. Their concerns are guaranteed to be addressed by DAP because of the 12.4.2 factors"*. First Nations saw their role as a way of drawing attention to cultural issues that were once disregarded in favour of economic and environmental concerns. A different opinion was given by another YTG participant who stressed that even though First Nations were allotted an equal proportion of the prominent positions in DAP, *"there are no guarantees that their concerns will be accounted for in the process"*. Identification and consideration of native concerns depends on the First Nations' ability to do the groundwork of drawing upon their experience to make the issues known to boards and review committees.

The independence of DAP appeared as a second concern among the responses under *'power'*. Although First Nations maintain a formal role, the question of their independence in the operational stages remained an issue. One participant from the territorial government stated that a goal of DAP *"is to make First Nations independent as a functioning governing body"*. Other YTG and DIAND participants noted that DAP was a framework for systematically including First Nations *"except for the technical aspects of impact assessment"*. However, CYFN members stated that First Nations should perform all of the same functions as the federal government has done in the past. One member offered that *"First Nations need training for their newly acquired responsibility so that they are not marginalized"*. First Nations want to participate in all aspects because they feel that their new role as equal players will help them to regain respect and recognition from the other governments.

Treating DAP as a low priority emerged as a third issue reflecting disagreement

among the participant groups. First Nations stated that DAP was not a prominent issue in the Yukon because *"Bureaucrats and politicians are not treating it as a priority compared to matters such as upcoming political elections and federal government devolution"*. DIAND respondents admitted that DAP was not a priority at the time of interviewing, as only three staff were working on negotiations. First Nation participants felt that YTG and DIAND were intentionally slowing down the 'push' to complete the negotiations. For example, they would not reveal their positions on certain issues at discussions. YTG members, however, opposed this view stating that CYFN's approach *"to sit down and negotiate DAP like a land claim is not very progressive"*. The majority of respondents acknowledged that the tripartite discussions would not likely be completed by the set deadline of February 14th, 1997. The DAP Core group has agreed to delay the deadline until December of 1997.

In summary, many issues surrounding the *'power'* construct emerged from the data. Participants from the three study groups were in accord regarding the equality of key players, First Nations increased power in resource management, accountability and responsibility of all DAP groups, and hiring staff for boards who are independent from any of the tripartite groups. Participants' views also conflicted on certain issues related to *'power'*. These focused on whether the inclusion of First Nation concerns would be guaranteed, the degree of First Nation involvement, and the priority of tripartite discussions among DIAND, YTG and First Nation groups.

4.3.3 Participation Construct

The third construct, *'participation'*, encompasses matters identified by the respondents relating to the *'issues and concerns'* category. Overall, participant responses tended to focus on the mechanics of DAP required to make the process operational, which included; hiring procedures boards and committees, trust, the number of Designated Offices to be established, administration, and, the legal status of information requirements. Although optimal use of traditional knowledge was also recognized under *'participation'*; details are discussed in chapter five.

Identifying Similarities and Differences

All of the participant groups voiced similar opinions that staffing committees and agencies was a major issue in relation to participation. Due to a lack of knowledge regarding funding for these structures, staffing was a shared concern (Table 4.3). It was unknown at the time of interviewing as to who would be hired from which government groups or organizations to work on certain agencies or committees. In order to ensure equal standing with one another, First Nation and YTG respondents held congruent views that staffing should include their own people if independent staff were not hired.

Trust among all key players involved in DAP was a second matter raised by all of the study participant groups. In order to achieve a successful assessment process, each group participating in project reviews would have to trust and respect one another. One respondent from DIAND explained, *"DAP needs to be a transparent process"*. This

Table 4.3: First Nation, YTG, & DIAND Perspectives Regarding Participation

Similarities	Differences
<ul style="list-style-type: none"> ➤ staff DAP agencies and committees with own employees if independent workers are not viable ➤ trust is required by all key players involved in DAP to create a fair assessment process 	<ul style="list-style-type: none"> ➤ the number and location of designated offices to be established under DAP ➤ administering DAP procedural requirements needs to find a balance between the political and practical aspects of DAP ➤ whether major players involved in DAP should have the same legal information requirements

referred to the three governments being able to work with each other in a positive, supportive setting. A YTG participant expanded on this point, describing their vision where *"no decisions are made behind any doors, everything about DAP should be done out in the open, where those involved in administrative positions can be made accountable"*.

Funding sources for DAP design, implementation, and operationalization, created contentious issues among the participants. The 'DAP Core group' drafting the operational requirements are experiencing difficulty as the source and amount of financial support is uncertain. For example, the number, location, and staff for certain agencies remains unresolved. First Nations were particularly concerned that *"limited funding will restrict the*

number of Designated Offices established". They wanted a Designated Office built in each First Nation community, making 14 in total. One First Nation participant noted that this scenario would give First Nations a sense of assurance in having their voices heard and considered for all proposed development in Yukon. YTG and DIAND respondents remarked that "fewer Designated Offices are expected to be implemented to reduce operating costs". Regional DO's were suggested as one option.

Disagreement on administration of procedural requirements emerged as another issue regarding 'participation'. Concern about DAP growing into a "grandiose bureaucratic nightmare" was expressed by both First Nation and YTG participants. However, one YTG participant stated that, "People negotiating DAP do not understand what they are creating. They are putting too much emphasis on the political aspect of impact assessment and not enough on the practical side managing an impact assessment process". DIAND and YTG members held similar views that the First Nations, as a governing body, must put greater emphasis on the practical aspects of DAP. They also stressed that the federal and territorial governments have learned from experience that impact assessment requires coordination between many departments. Physical work like site checks, technical support, and ongoing research were given as examples. One individual commented that First Nations "need to realize that they cannot do a comprehensive impact assessment 'in house' so to speak". DIAND and YTG claimed that "First Nations are not willing to train on the scientific aspect of impact assessment because they don't recognize the need".

Lastly, the relationship between groups participating in DAP and information requirements revealed differences of opinion among study groups. A YTG participant raised the issue that both, YTG and DIAND were "obliged under the Information Act to

give any relevant information to proponents". Conversely, First Nations are not legally required to provide information or their knowledge to proponents. It was observed by a YTG participant that *"Previously, First Nations have functioned as a small, tight, political group, and therefore, are not likely to give information up very easily"*. In comparison, YTG and DIAND are large bureaucratic structures with many departments that generally co-operate with one another, allowing for free exchange of information, ideas, and resources to complete required tasks. YTG and DIAND respondents were concerned that First Nations would not function as a democratic government like themselves, which would require CYFN to be liable for sharing their knowledge.

The third construct, *'participation'* captured many attributes of the participants' perspectives towards the role of DIAND, YTG and First Nations. Responses that demonstrated areas of congruence were staffing of DAP boards and agencies, and trust required by all key players. Dissimilar opinions that were highlighted by the participants included the number and location of Designated Offices, balancing the political and practical aspects of administering DAP, and lastly, setting the same legal information requirements for all key players.

4.3.4 Knowledge Construct

The construct which captured many of the participant responses was *'knowledge'*. Most of the issues subsumed in the knowledge construct were derived from the *'priorities'* category of DAP. Figure 4.2 shows that additional concerns connected to *'knowledge'*

were also derived from the categories labelled '*goals*' and '*issues and concerns*'. Discovering how to apply different knowledge types was the underlying theme of participant responses in the knowledge component. The main points expressed by the respondents emphasized the need to establish working definitions of terms and concepts found in Chapter 12, to create a trusting environment, in addition to designing tools and mechanisms enabling the use of traditional knowledge.

Identifying Similarities and Differences

One of the main issues reflected in the '*knowledge*' construct identified by all of the study groups related to the need to develop clear and agree on definitions for fundamental terms and concepts contained in Chapter 12 (Table 4.4). Participants agreed that terms lacking working definitions included traditional knowledge, project, Designated Office, and s.12.4.2 concepts such as 'traditional economy' and 'special relationship with the land'. Factors in s.12.4.2 would only be considered once something was declared a project. First Nation and YTG participants recognized that the meaning of TK must be defined, otherwise it would be used crudely. For instance, TK must first be understood by all working groups before it could be used to identify unique impacts.

Trust emerged as a second factor affecting the formal integration of traditional knowledge. DIAND and First Nation participants revealed similar perspectives. To ensure that TK was used appropriately, First Nation respondents stated that respect for the environment by all government groups was necessary for trust to exist. An individual from DIAND noted that trust was based upon "*alternative views in DAP being respected*

Table 4.4: First Nation, YTG, & DIAND Perspectives Regarding Knowledge

Similarities	Differences
<ul style="list-style-type: none"> ➤ develop working definitions for fundamental terms and concepts contained in Chapter 12 ➤ trust is required among all government groups involved in DAP to help ensure the appropriate use of TK and WSK ➤ education and cross-cultural training should be provided to all groups involved in DAP, and mandatory for assessors and decision-makers ➤ team approach to conduct impact assessment where knowledge types would be used at different points of DAP 	<ul style="list-style-type: none"> ➤ determine a method to implement in DAP that provides for the formal and systematic use of TK

by others". Trust is established by viewing other groups as equal, and having credible sources of information. This infers mutual acceptance of one another's knowledge.

Thirdly, education and cross-cultural training emerged as a common issue between First Nation and DIAND respondents under the "knowledge" construct. First Nation respondents noted that people on assessment boards play a critical role and therefore should be provided with cross-cultural training on their roles and responsibilities. An example of such training might include "to teach them [board representatives] that it is not necessary for them to think that they need to understand perspectives of people

living in a region". Rather, emphasis would be placed on decision-makers acknowledging alternative knowledge systems. DIAND participants supported this idea, stating, *"Training is a good idea for conducting assessment processes because it introduces cultural sensitivity"*. Once decision-makers and proponents are made aware of what is required and expected when conducting impact assessment, the risk of misinterpreting the use of and processes associated with TK would be minimized.

A team approach to project investigations was identified as a fourth point to systematically include traditional knowledge. YTG and DIAND believed that a balance was needed between politics, information types, and assessment procedures. A team approach allows for comprehensive impact assessments because each group involved would contribute to the process when appropriate. Decision-makers need to be aware of the demands when conducting impact assessments *"to recognize deficiencies of the process, grasp the difference between socio-economic and environmental impacts, and to determine who is to give and accept what, at different parts of the process"*. Both governments agreed that TK would be required at specific points of DAP, just as western scientific knowledge would be used in the more technical parts.

The second focus of issues under the knowledge construct reflected disagreement among DIAND, YTG and First Nation groups. Participants held different views regarding the ability of DAP to provide for the systematic and formal use of traditional knowledge. In particular, handling of data in a subjective or quantitative manner, deciding on a mechanism to incorporate TK, and proactive use of First Nation knowledge were raised by the participants. These issues are addressed in chapter 5 as they focus on the role

of traditional knowledge in DAP.

4.4 Summary

The participants' perspectives on DAP procedural and information requirements have been presented in terms of similarities and differences according to the four constructs and the three study groups representing different organizations. In reflecting upon these comparisons, it was evident that the similarities function as positive forces to the tripartite discussions on DAP policy, whereas the differences may act as barriers. Varying perspectives provided by the participants uncovered areas of incongruent opinion surrounding the themes of DAP. These contentious issues are summarized in Table 4.5 according to '*culture*', '*power*', '*participation*' and '*knowledge*'.

It is apparent that the application of traditional knowledge and the paucity of guidelines regarding its use was a very prominent issue among the 21 study participants. In order to explore some of these concerns and questions associated with the role of traditional knowledge in DAP more thoroughly, the next chapter provides a more in depth examination on specific issues and possible solutions.

Table 4.5: Summary of Issues Representing Disagreement on DAP

Construct	Contentious Issues
Culture	<ul style="list-style-type: none">➤ legal status of DAP objectives; legislation versus regulations➤ how to balance cultural and environmental protection with development➤ the extent to which s.12.4.2 issues related to culture will be addressed
Power	<ul style="list-style-type: none">➤ if equal status of First Nations will guarantee consideration of native concerns➤ independence of First Nations in operating procedures➤ priority and approach to DAP tripartite discussions
Participation	<ul style="list-style-type: none">➤ number and location of Designated Offices➤ determining a balance between political and practical aspects of administering DAP➤ standard information requirements for all tripartite groups
Knowledge	<ul style="list-style-type: none">➤ choosing a method that provides for the formal, systematic and comprehensive use of TK

CHAPTER 5

5.0 EXAMINATION OF TRADITIONAL KNOWLEDGE IN DAP

The third objective of this thesis is to investigate the role of traditional knowledge (TK) in the Development Assessment Process (DAP). Many of the issues discussed in this Chapter are primarily related to the *'knowledge'* construct presented in Chapter 4. The intent of this Chapter is to provide a detailed examination of the issues surrounding traditional knowledge according to the perspectives of the three major parties to the UFA (1993); DIAND, YTG, and First Nation. The methodology used to collect, organize, and assess the participant responses is presented first, followed by a discussion of results.

5.1 Methodology

The UFA (1993) demands the participation of First Nations in environmental assessment and management, and indirectly requires the use of their knowledge on boards, committees, and decision bodies. The challenge lies in determining mechanisms or procedures to see how First Nations' knowledge can be incorporated into an assessment process. In order to address this question, data were collected from 21 study participants, organized according to the specific questions asked, and then examined for key issues.

A core set of questions was asked of each of the study participants. This ensured that collectively, the responses captured the wide array of views held by the major players

involved in establishing and implementing policy. In addition, the systematic technique of interviewing provided consistency in data collection. Question design was based on extensive reading, and on parts of Chapter 12 of the UFA (1993). Five major topic areas on traditional knowledge were investigated, focusing on terms of reference, perceived equality, benefits and barriers, and methods to collect and incorporate information in DAP (Appendix 1). Specifically, the questions were:

- (1) • Can you give an example of 'First Nation knowledge or experience' that could contribute to DAP? In your opinion, can traditional knowledge reveal unique impacts?
- (2) • Are traditional knowledge and scientific knowledge seen as equally valid for each step of DAP? If there is conflict of evidence between the two knowledge types how can it be resolved?
- (3) • Are there any barriers and, or, benefits to the use of traditional knowledge in DAP? If so, can you describe some?
- (4) • How can information be collected to conduct assessments under DAP?
- (5) • How can First Nation knowledge and experience be incorporated into DAP?

Each question was asked of each participant representing either DIAND, YTG, or, First Nation organizations. Perspectives obtained for each topic were summarized into tables to facilitate the comparison process. The number of responses attained from the 21 participants for each question were distributed as follows; question one (17), two (18), three (20), four (17), and five (17). Reasons accounting for the incomplete response rates were participants declining a question due to their lack of familiarity with the topic, or respondents 'passing' questions due to their time constraints.

In exploring the various aspects of integrating two different knowledge systems,

as summarized from the data responses, main areas of concern were identified. These key issues will then be used to formulate recommendations specifically for implementing traditional knowledge. The next five sections highlight and discuss the research findings.

5.2 Discussion of Results

A number of insights were acquired in comparing the participants' responses for each topic area. The similarities and differences characterize how traditional knowledge (TK) can function as an integral component in the Development Assessment Process, and identifies barriers to its incorporation. Results are presented according to the views of DIAND, YTG and First Nation respondents for each question.

5.2.1 Defining First Nation Knowledge and Experience

The first question focused on identifying examples of First Nation knowledge and experience that could contribute to DAP. Before traditional knowledge is systematically included in the assessment process, all key players must agree on what it represents. Respondents concurred that traditional knowledge was composed of various dimensions, which included land-based information and spirituality (Table 5.1). Cultural and spiritual information was identified as being able to reveal 'unique' impacts.

The majority of participants described traditional knowledge as being related to, and dependent on, the environment. Specifically, four themes were recognized: 1) Spatial

Table 5.1: Defining First Nation Knowledge and Experience

YTG	First Nation	DIAND
<ul style="list-style-type: none"> > winter feeding habitats > calving habitats > hunting areas > fish camps > migration patterns > annual wildlife cycles ie. rutting > time frames for food harvesting > local knowledge ie. berry patches, caribou patterns > inter-relationships within the environment > land based activities & their spiritual components > cultural value of activities ie. hunting > place names > stories- Indian words & names > heritage resources > weather 	<ul style="list-style-type: none"> > travelling/ed trails > spiritual areas > sacred sites ie. burial grounds > berry patch locations > harvesting areas > knowledge of 'small', local areas 	<ul style="list-style-type: none"> > issue identification for environmental/ social/ economic/ cultural impacts ie. moose habitat, location of harvesting spots

Question (1): Can you give an example of 'First Nation knowledge or experience' that could contribute to DAP? In your opinion, can traditional knowledge reveal unique impacts?

patterns (eg. winter feeding habitats, hunting areas, fish camps, berry patch locations, wildlife migration groups); 2) Cyclical patterns (eg. seasonal time frames of wildlife behaviour such as rutting and migration); 3) Temporal patterns (eg. weather and harvesting of different food; and 4) Interrelationships within the environment (eg. knowing the indirect implications of changing tree species in a vicinity and how it affects the local

wildlife). Traditional knowledge was perceived as a valuable source of information to conduct impact assessments due to its ability to detect long term changes in various regions.

The spiritual and cultural dimensions of traditional knowledge were identified as a second major type of information. Examples provided by the participants included sacred sites, burial grounds, stories and legends, cultural value derived from activities, heritage resources and place names. The spiritual connection established by First Nations is derived from their direct contact with the land where physical survival creates a very significant connection to the land. As a First Nation participant explained, "*A hunter may know of where caribou feeding habitat is to obtain meat for food. The hunter attaches a spiritual meaning to that location because they depend on it for use and survival*". Thus, the spiritual significance of First Nations' knowledge is borne out of their culture. However, another First Nation respondent cautioned that "*First Nation communities must decide if they will share their knowledge because it is linked to their survival*".

Respondents indicated that this spiritual element of traditional knowledge enabled assessors to 'see unique impacts'. YTG and DIAND participants described 'unique impacts' as relating to the spiritual component of First Nations from their traditional use of land over time. A First Nation respondent, however, stated "*all impacts identified from traditional knowledge are unique because western knowledge is unable to identify them*". Adverse impacts on culture could be predicted beforehand, as opposed to afterwards, which is characteristic of the western approach to environmental assessment. Overall, participants agreed that knowledge and culture together, reveal unique impacts.

5.2.2 Equality of Knowledge

The issue of equality between two different knowledge types was the second topic explored. True power-sharing relationships will only be formed if both cultures have an equal opportunity to contribute their knowledge and experience. Although the majority of respondents viewed the use of TK and western scientific knowledge (WSK) as being contextual, there was disagreement regarding equal consideration of both knowledge types (Table 5.2). Participants agreed that DAP boards would ultimately determine the weight between knowledge systems. The potential for conflict of evidence is a reality as traditional and western knowledge are defined culturally (Kuhn and Duerden, 1996; Doubleday, 1993; DIAND, 1996). Respondents' views towards conflict resolution of different 'valid' information sources is the second focus of this section (Table 5.2.1).

YTG and DIAND respondents agreed that the use of traditional and western knowledge was contextual. Government participants shared the perspective that each knowledge type has strengths and expertise that should be identified and applied to the appropriate stages of an assessment process. Traditional knowledge was recognized as being more sensitive to social, economic, cultural, and wildlife issues. Western knowledge was seen as more viable for the technical components of DAP. Therefore, the contribution of each type is dependent on two factors: 1) The nature of the project (eg. scale, location, duration); and 2) The types of concerns raised (eg. if proposed in a densely populated wildlife area).

First Nation respondents maintained that their knowledge must be accepted by all DAP board and committee members, and be applied throughout the process. They felt

Table 5.2: Equality of Knowledge

YTG	First Nation	DIAND
<ul style="list-style-type: none"> > WSK is dominant > TK will be given priority/ assurance at certain stages > WSK used for technical, scientific demands in DAP > WSK has greater role in validating impacts > WSK is generated in a cultural vacuum > YDAB/ DO staff decides equality of use and regard of information > chapter 12 does state that one knowledge type has more merit > TK cannot be sole grounds to oppose projects > TK needs to become credible > equal; aim is to provide relevant information to the Decision Body > use of TK and WSK is contextual 	<ul style="list-style-type: none"> > govt disregards TK if not backed by WSK > TK is only method to answer some s.12.4.2 factors > not verified in Chapter 12 that govt must use TK > total recognition/ acceptance of TK does not yet exist 	<ul style="list-style-type: none"> > WSK is prominent > TK and WSK reflect different expertise areas > TK is more applicable for smaller scale projects > use of TK & WSK is contextual

Question (2): Are traditional knowledge and scientific knowledge seen as equally valid for each step of DAP?

that the use of TK in a contextual sense would result in unequal consideration. One reason given by a First Nation respondent was that *"only a handful of government bureaucrats recognize the value of traditional knowledge"*. A YTG participant supported this view describing that *"traditional knowledge needs to gain credibility before it can change the course of large scale development initiatives"*. YTG and DIAND members stated that WSK was the dominate knowledge type for conducting impact assessments due to its approach *"of verifying information and validating impacts"*. Another YTG respondent stated that *"Traditional knowledge cannot be the sole grounds for rejecting a project proposal because it does not have a prominent enough role"*. Generally, participants agreed that First Nations' knowledge was the only viable method to address certain issues, especially those in s.12.4.2 which relate to the protection of First Nations' culture, traditions, lifestyles, health, and special relationship with the land. A lack of recognition by government, however, creates problems for establishing equal consideration of both knowledge types.

Although a common goal among the respondents was to achieve a fair and equal use of traditional and western knowledge, the responses varied regarding what constituted 'equal consideration'. This point was open to interpretation as Chapter 12 does not legally state that one knowledge has, or should have, more merit than the other. The Yukon Development Assessment Board and Designated Offices were identified as the responsible boards to determine the use of different knowledge and ensure that proponents provide the appropriate information. Under s.12.8.0 in Chapter 12, YDAB is able to determine its own procedures, and therefore, could be designated as the central body that develops guidelines on equal use of different knowledge types.

Respondents' perspectives on conflict between traditional and western knowledge was the second area investigated. Participants agreed that DAP boards were responsible for managing opposing information from different sources. Techniques and approaches for resolving conflict of evidence are then presented (Table 5.2.1).

First Nation and DIAND respondents agreed that the Yukon Development Assessment Board and Designated Offices had the ultimate responsibility to deal with controversy that arose in impact assessments. As these structures are legally required to ensure that s.12.4.2 factors are addressed, they must judge what information best addresses these issues. A CYFN participant described a recent example where elders noticed a drastic decline in caribou numbers in Kluane National Park, and scientists maintained that the population was stable. However, once the Yukon governments' data verified low population numbers, they implemented a wolf kill program to help revive the caribou. Traditional knowledge can not be discarded as it can provide early detection to environmental changes. Participants agreed that designating one authority to deal with conflict on an issue by issue basis is more effective than developing invariable mechanisms.

The participants offered various ideas for settling conflicting information. A DIAND participant suggested, "*mitigative measures could be re-examined, such as offering more money in turn for agreement*". This technique, however, discourages DAP administrators from accepting and accommodating TK and WSK on equal terms. The two main methods identified by the participants included: 1) Conducting additional studies; and 2) Re-assessing the credibility of data sources.

Conducting further studies on contentious issues was the most common response given by participants. If conflict was attributed to the players involved in project reviews,

Table 5.2.1: Resolving Conflict of Evidence

YTG	First Nation	DIAND
<ul style="list-style-type: none"> ➤ refer projects to further review ➤ examine soundness of data ➤ generate a study to verify different claims 	<ul style="list-style-type: none"> ➤ YDAB/ DO are responsible ➤ expand time frame of screening/ review ➤ expand criteria list set by DAP boards (YDAB/ DO) ➤ no mechanism in place 	<ul style="list-style-type: none"> ➤ YDAB/ DO are responsible ➤ proponent conduct further studies ➤ partially implement a project ➤ reconsider mitigative measures

Question (2): If there is conflict of evidence between the two knowledge types how can it be resolved?

then projects could be referred to another Yukon Development Assessment Board panel to minimize clashing attitudes. YTG participants observed that DAP regulators are in positions to generate new studies to verify different claims, or to request the proponent to generate additional information.

Examining the credibility of data sources was another method proposed to resolve conflict of evidence. In the case of determining the caribou population in Kluane Park, the assessors would question how both data sets were collected. A YTG respondent explained *"An elder who lived and still lives in the region would be very familiar with the caribou compared to an elder who walked through the area once a year. A scientist who radio collared caribou in the vicinity would obtain more accurate data compared to a*

scientist who flew over the area once and counted them". If one knowledge type appeared more substantive than the other assessors, it would be given more credence and used in decision-making processes.

5.2.3 Barriers and Benefits

The third question focused on identifying barriers and benefits to applying traditional knowledge. To promote the full potential use of traditional knowledge, limitations and strengths need to be recognized for people who possess the knowledge, for developers who are required to consider it, and for assessors who must determine fair usage. According to the participants, there are more barriers than benefits (Table 5.3).

Barriers

Barriers identified by the participants related to issues of availability, misuse, lack of recognition, subjectivity, and lack of a working definition. Factors affecting accessibility were identified as a major obstacle to the use of traditional knowledge. Aging and the passing away of elders results in a partial and permanent loss of memory. An entire history is gone if it is not passed onto the next generation or documented. Also, a DIAND participant observed that First Nations are *"very possessive of their ownership over their knowledge"*. A CYFN respondent observed *"they [First Nations] are tired of being interviewed over and over again about the same things"*. Therefore, an improved system is needed in the Yukon to organize and access TK that is already collected.

Potential misuse of traditional knowledge, either intentional or unintentional, was acknowledged as a barrier. A YTG respondent explained that intentional abuse may occur if First Nations manipulate the use of their knowledge by selectively providing it to either the proponents or to the boards, depending on which would support their interests. The majority of respondents, however, referred to the unintentional misuse of TK, such as an elders' poor memory.

Participants agreed that a lack of recognition by government officials restrained the use of traditional knowledge. First Nations' knowledge is not used to its full potential in resource management as many western scientists and government members do not accept it as a valid information source (Kuhn *et al.*, 1994). One YTG participant noted that assessment bodies must learn how to deal with TK by *"understanding, and acknowledging the cultural importance that it represents"*. However, a First Nation respondent stated that one needs to speak the language to have a true understanding of traditional knowledge because *"it lies in a person from the way they were raised"*. Increased awareness from First Nation and government members educating one another about their knowledge systems would help sensitize them on the value of each. This process requires people to teach *and* to listen and respect alternative ideas and beliefs.

The subjective nature of First Nations' knowledge was identified by government participants as a factor hindering its application. Traditional Knowledge was not recognized as an exact science, and therefore does not fit into the western mode of thinking. DIAND respondents described a typical problem in gathering data where *"assessors get easily sidetracked due to the way elders share information in stories"*. Government participants suggested that 'untreated' TK was *"unmanageable and needs*

to be reduced from a holistic level to capture the relevant parts for assessment".

However, this discourages equal consideration and recognition of traditional knowledge as a complete system. Attempts to dissect TK fail to capture its true holistic world view. The value and contribution of traditional and western knowledge should be attributed to the fact that the philosophical, cultural, social, and other dimensions, build their frames of reference and distinguish their world views.

A final limitation identified by participants was the need to develop a working definition of traditional knowledge. Without one, problems may arise in determining whether DAP information requirements were met or not. A YTG participant explained that local knowledge reflects a persons' detailed understanding of a specific area. TK is similar in the sense that it is derived from the land, but has strong historical ties to the culture of Yukon First Nations. Administrators need a sufficient understanding of traditional knowledge in order to facilitate its harmonious use with western knowledge.

Table 5.3: Barriers and Benefits

YTG	First Nation	DIAND
<p>Barriers</p> <ul style="list-style-type: none"> > not fully recognized/ accepted by western scientists > lack of understanding > highly subjective > no explicit mechanism to incorporate TK > unequal units(TK/ WSK) to base comparisons > applying TK to large scale resource management > nebulous to put into policy > potential abuse of TK (intentional/ unintentional) > unavailability of TK > loss of TK 	<ul style="list-style-type: none"> > lack of recognition/ acceptance of TK > grey area on procedures to handle TK in DAP > FNs need to speak their native language > unclear definition of TK > applying TK out of its context > high cost and time requirements > misinterpretation of TK > aging of elders > elders over-interviewed > lost interview tapes 	<ul style="list-style-type: none"> > not fully recognized by governments > 'ownership' of TK > misuse of TK > irrelevant TK collected for projects > FNs lack of confidence in their own information > unmanageable form of data > TK and WSK cannot always be harmonized
<p>Benefits</p> <ul style="list-style-type: none"> > ongoing learning between FNs and scientists > holistic perspective of the environment > long term environmental trends detected > inexpensive information source > more accurate in FNs expertise areas ie. wildlife 	<ul style="list-style-type: none"> > forced recognition of TK > FN culture is considered in DAP > legitimizes FN view on land management > control is brought to community level > broader information base 	<ul style="list-style-type: none"> > FNs become accountable > improve decision making of permitting/ regulatory agencies > additional information source

Question (3): Are there any barriers and, or, benefits to the use of traditional knowledge in DAP? If so, can you describe some?

Benefits

Respondents described how traditional knowledge could benefit DAP (Table 5.3). For instance, First Nation participants stated that their knowledge *"contributes another source of information that helps to broaden issue identification and expands the scope of information"*. First Nations were identified as having increased awareness about resource use in their local area. A DIAND respondent perceived this *"to improve the ability of assessors to identify critical impacts for potentially affected communities"*. Permitting and regulatory agencies' use of TK would better coordinate their actions with land capabilities. Furthermore, DIAND and YTG participants viewed First Nations' knowledge as a *"fast and cheap method"* for accessing information. They also noted advantages to identifying concerns and predicting impacts on spirituality. The use of traditional knowledge allows for more comprehensive decision-making, which helps to meet the goal of certainty regarding timely project reviews, as stated in s.12.4.2.8.

Accountability of First Nations was another benefit identified by DIAND participants. DAP legislation will require key players to act as equal partners. That is, resource managers have equal authority where joint decision-making is institutionalized and legitimate. As First Nations are key players, a DIAND respondent noted that *"it is to their advantage to create a transparent process similar to CEAA [the federal process]"*. YTG and First Nation participants agreed that the purpose of DAP was to control the conduct of impact assessment in the Yukon, not to prevent development. Therefore, establishing a comprehensive assessment process that met each of the tripartite groups' expectations would encourage fair conduct by all parties, including the handling of

different knowledge types.

Legitimization of First Nations' views on resource management was attributed to the use of their information. First Nation respondents agreed that *"the required use of traditional knowledge forces DAP boards to recognize and learn how to manage our knowledge"*. They maintained that western managers must become educated on the value of TK as proponents and assessors are required to consider the s.12.4.2 factors, which emphasize the protection of First Nation culture. According to Chapter 12, First Nations have the opportunity to voice their opinions as members of the 'public' and therefore, can ensure that their culture and traditions are considered by providing the information.

5.2.4 Methods to Collect and Incorporate Traditional Knowledge

The fourth topic investigated mechanisms to collect and integrate traditional knowledge. Chapter 12 of the UFA (1993) incorporates many concerns in the procedural and information requirements which relate to impact assessment. Mechanisms to integrate these issues into DAP, however, are still in the process of being determined. Participants contributed their ideas on how to achieve the full use of traditional knowledge. Methods for collection are presented first (Table 5.4), followed by techniques to incorporate traditional knowledge (Table 5.4.1).

Collection was perceived to be a crucial issue that needed immediate attention. The question of who was responsible for gathering traditional knowledge was one central

Table 5.4: Methods to Collect Traditional Knowledge

YTG	First Nation	DIAND
<p>Collection</p> <ul style="list-style-type: none"> ➤ proponent consults with FNs, conducts independent research ➤ guidelines available on collection of TK ➤ 'inside' aide to organize meetings with FNs ➤ contact FNs formally ➤ use background TK from existing resources ➤ employ GIS database ➤ ongoing collection by FNs & academics ➤ consult with FNs specifically or affected communities ➤ interview elders & FNs ie. ask relevant questions 	<ul style="list-style-type: none"> ➤ proponent conducts independent research ➤ DO members collect TK ➤ TACs collect TK ➤ FNs collect own TK ➤ develop an Elders Council for each FN ➤ use existing resources ➤ ongoing collection ie. cultural heritage centre ➤ maintain TK in a central location ➤ build local knowledge base first ➤ storage of TK-archives ➤ pay honorarium for sharing time & knowledge ➤ speak and know language ➤ interview elders ➤ interview communities ➤ casual talk with FNs 	<ul style="list-style-type: none"> ➤ proponent collects TK ➤ checklist approach is impossible ➤ interview elders & FNs ie. ask relevant questions

Question (4): How can information be collected to conduct assessments under DAP?

focus of responses. CYFN participants felt strongly that First Nations should collect and document their knowledge *"to bring the process down to a community level"*. They would have a greater sense of control over the process as *"First Nations know the terminology and are familiar with the way it is generated and transmitted"*. One CYFN participant,

however, expressed concern that *"Documenting traditional knowledge will result in it becoming dilute and lose all its richness"*.

Government respondents agreed that proponents were responsible for gathering relevant information to determine potential impacts. Proponents are required to obtain their own information (s.12.9.1.1), in order to meet the requirements of addressing s.12.4.2 factors in their initial proposals. The methods identified to achieve this task were twofold. First, proponents could conduct their own research, such as hiring a consultant who is familiar with the protocols of gathering traditional knowledge. Second, proponents could acquire information that has already been documented, such as taped interviews with elders, stories or, using the central traditional knowledge institute if one is established. Overall, collecting and maintaining traditional knowledge in a central agency was favoured by the participants.

Responses relating to protocol associated with gathering TK were identified as a theme. Participants from all three organizations recognized elders as the primary providers of TK as they *"are natural leaders"*. Government respondents agreed that *"knowing an inside 'aide' to direct you to the most appropriate elder or First Nation(s) would save time by getting the right information in the first place"*. YTG and DIAND stated that traditional knowledge is a 'user pay' principle where First Nations should receive an honorarium for being consulted. Respondents also observed that formal meetings were preferred by First Nations compared to casual ones. It was generally agreed that speaking with the right people and asking the right questions influenced the type and quality of TK collected for project assessments.

Developing a systematic method to collect, document, organize, store, and retrieve traditional knowledge was identified as another key area of responses. Participants

suggested that a central agency could be established to coordinate the gathering of traditional knowledge. They noted that this would minimize the duplication of research efforts, be less costly to the proponents, and assure the thoroughness and quality of information collected. CYFN participants advocated this method as First Nations would be *"responsible, gain control over their knowledge [and] become united in the process"*. Thus, traditional knowledge would be used proactively where First Nations were directly involved in the process by building up the information base.

Money was identified as a major constraint to undertaking a full concerted effort for collecting traditional knowledge. A CYFN respondent suggested that each First Nation could establish an Elders Council, however, inconsistent documentation may result in varying quality and a fragmented database. Designated Offices and Technical Advisory Committees were also proposed by First Nation participants to *"function as a central place to have the ongoing collection of traditional knowledge"*. If, however, independent staff were hired then First Nations' role would be less prominent. In summary, key players must agree on the tradeoffs between 'ideal' and 'attainable' collection methods to ensure that a sense of equality and fairness are maintained.

The second part of the question captured participants' views on integrating traditional knowledge into an assessment framework (Table 5.4.1). Many respondents linked First Nation participation to the use of their knowledge, and identified opportunities in DAP warranting its use. Past approaches employed to involve First Nations primarily included surveys where response rates were very low. Participants agreed that participation of First Nations or those representing them on DAP boards, panels, and

Table 5.4.1: Methods to Incorporate Traditional Knowledge

YTG	First Nation	DIAND
<p><i>Incorporation</i></p> <ul style="list-style-type: none"> > FN participation on DAP boards- YDAB/ DO/ DB > FNs opposition recognized in recommendation reports > addressing s.12.4.2 > s.12.4.2.5- consider project alternatives > s.12.2.4.6- mitigation measures > s.12.9.1.1- proponents <i>must</i> consult with affected FNs > if legislation includes s.12.4.2 > identifying potential impacts > significance assessment > use TK to support WSK or fill in knowledge gaps > baseline information > facilitate collection of TK > quantify TK 	<ul style="list-style-type: none"> > FN participation on boards & committees, YDAB/ DO/ TAC- formal inclusion of TK > choosing educated/ aware spokes people for DAP boards > DO's situated in communities- informal inclusion of TK > addressing s.12.4.2 > if legislation includes s.12.4.2 > significance assessment > environmental monitoring > recommendation & decision making process > enforcement > baseline information > designing criteria for project screening/ reviews > facilitate collection of TK 	<ul style="list-style-type: none"> > FN representation on DAP boards & panels- YDAB/ DO > FN opposition to project proposals > FN participation in assessments > if legislative guidelines/ policy procedures are established > issue identification > impact prediction & mitigation > baseline information > addressing s.12.4.2 > if CYFN develops a general guideline on TK for developers

Question (5): How can First Nation knowledge and experience be incorporated into DAP?

agencies, constitutes the incorporation of their knowledge. For example, government respondents stated that *"First Nations as staff for Designated Offices increases the*

awareness to social, cultural, and economic issues". This would function as a safeguard to conducting comprehensive impact assessment as traditional knowledge is built into the process.

Although participation was viewed as a mechanism to integrate TK, participants identified limitations` to this approach. Chapter 12 (s.12.10.0) stipulates that project effects occurring primarily on Settlement Land requires two thirds First Nation representation on review panels versus project effects occurring primarily on Non-Settlement Land, where only one third First Nation representation is required. Furthermore, as described in s.12.13.0, composition of the Decision Body is similarly determined by the location of the project. Thus, the extent of traditional knowledge available via direct involvement of First Nations on DAP boards is strongly influenced by the location of the project and predicted impacts.

Generating traditional knowledge relevant to project investigations was acknowledged as facilitating its incorporation. YTG and DIAND participants agreed that this would help TK *"be considered as a valid source of information in DAP"*. Assessors and proponents need to know the specific purpose and objectives of each impact assessment in order to *"ask elders the right questions"*. A YTG respondent, however, stated that *"All components of DAP should be made quantifiable based upon select criteria"*, such as child care expenses and employment. They explained that if all potential impacts were equal units of benefits of costs, then *"grounds are set for a fair debate, Board members can then 'see' the other side of counter evidence"*. The respondent maintained that this was the First Nations' best strategy for vetoing project proposals, however, this directly contrasts the First Nations' position that TK should be accepted for

what it is.

First Nation participation at specific stages of the assessment process was also perceived as a key method to incorporating traditional knowledge. Issue identification was recognized as one opportunity by YTG and DIAND participants. They stated that First Nations' information *"could be used to fill in the gaps of knowledge on potential environmental, social, cultural and economic impacts for project screenings and reviews"*. First Nations' knowledge and experience was identified as being able to predict, mitigate, and assess the significance of potential impacts. Participants stated that this was attributed to First Nations' *"ability to detect changes over time on what has changed 'naturally' and what changes were associated to the project"*. A CYFN participant identified monitoring and enforcement as stages in DAP to incorporate traditional knowledge. First Nation and DIAND participants, however, noted that *"enforcement would be issued by the relevant party, depending if the project was on Settlement or Non-Settlement land"*. A further limitation noted by a YTG participant was that *"First Nations don't want to give specific information when describing their land uses, such as specific hunting areas. They are afraid that other people will abuse it for their own personal interests"*. The respondent suggested that this knowledge could still be incorporated by depicting the general area of use with a circle on a map, instead of indicating precise hunting locations.

Choosing well-informed and knowledgeable spokes people was identified by First Nation participants as another issue regarding incorporation. People fulfilling First Nation requirements on DAP boards must either hold traditional knowledge or be able to articulate the views of those who do possess it. Several respondents, however, stressed

"First Nation participation can function as a means to potentially incorporate traditional knowledge but Chapter 12 does not guarantee its use in DAP". Overall, First Nation participation was not viewed as ensuring the use of their knowledge, rather, it was perceived as a way to encourage its consideration.

5.3 Summary of Findings

In reflecting upon the responses attained from DIAND, YTG and First Nation participants, it was apparent that there were several issues associated with the role of traditional knowledge. Although similarities and differences in participants' opinions were captured under the 'knowledge' construct, an entire chapter was dedicated to traditional knowledge in order to explore and discuss the issues in detail, as traditional knowledge is an integral part to the operationalization of DAP. The specific subject areas investigated on traditional knowledge consisted of examples, equality, conflict resolution, barriers and benefits, and methods for collection and incorporation. Each topic investigated had main issues emerge from the data (Table 5.5). This information was organized and structured around each of the questions in order to characterize the participants' perspectives regarding specific issues associated with applying traditional knowledge in impact assessment. Areas of congruent and incongruent opinion along with additional insight into the use of First Nations knowledge were realized. Given the purpose of this research to provide recommendations on DAP, improved understanding of the issues surrounding traditional knowledge helps in formulating possible solutions for policy implementation.

Table 5.5: Summary of Issues Surrounding Traditional Knowledge

Question	Highlighted Issues
<p>Examples of TK that contribute to DAP</p>	<ul style="list-style-type: none"> > Land based information reflecting patterns of use; <i>temporal</i> (cycles, weather, harvesting time frames, wildlife behaviour), <i>spatial</i> (local scale information, migration, hunting areas, fishing spots, berry patches), <i>interrelationships</i> (detect indirect impacts on the landscape) > Spiritual/ cultural information is linked to FNs survival and non-tangible relationships with the land. This component of TK was recognized as enabling assessors to identify unique impacts to DAP
<p>Equality of TK & WSK in DAP</p>	<ul style="list-style-type: none"> > Use of TK and WSK in DAP is contextual ie. depends on project location, types of impacts etc. Disagreement exists regarding equality of TK and WSK, and unequal consideration of TK > DAP boards (YDAB/ DO) will determine the weight between TK & WSK
<p>Resolving conflict of evidence between TK & WSK</p>	<ul style="list-style-type: none"> > DAP boards (YDAB/ DO) are ultimately responsible to deal with conflict, including conflict of evidence > Suggested methods; refer the project for further review, generate new studies to verify information, examine the credibility of data resources
<p>Barriers & benefits to the use of TK in DAP</p>	<ul style="list-style-type: none"> > Barriers; availability of TK is hindered by many factors (passing of elders, FN's reluctance to participate), misuse of TK (intentional and unintentional), highly subjective, not recognized by some bureaucrats, poor harmonization due to different world views, no definition for TK > Benefits were fewer; improved decision-making in the assessment process, increasing FN accountability, legitimizing FNs' perspective of resource management

Table 5.5: Summary of Issues Surrounding Traditional Knowledge (cont.)

Question	Highlighted Issues
Methods to collect and incorporate TK in DAP	<ul style="list-style-type: none">➤ If proponents or FNs are primarily responsible to collect TK for project screenings/ reviews➤ Protocol for collecting TK ie. contacting and interviewing FNs➤ Establish a systematic way to collect, organize, store, and retrieve TK ➤ FN participation is the main way to incorporate TK, but it only ensures the consideration of TK and does not guarantee its use➤ Stages in DAP allow inclusion of TK; issue identification, significance assessment, monitoring, enforcement, s.12.4.2 factors

CHAPTER 6

6.0 RECOMMENDATIONS AND CONCLUSIONS

The final chapter of this thesis is divided into three parts. The first section explores possible solutions to the issues identified previously in Chapters 4 and 5. Next, recommendations from the research are provided on the implementation and operationalization of the Development Assessment Process (DAP). The third section presents practical and theoretical research contributions, reviews limitations of the research, and is followed by a discussion of future research opportunities.

6.1 Recommendations

Procedural and information requirements of the Development Assessment Process are defined broadly in the UFA (1993). By interviewing key informants involved in developing DAP legislation and policy, data were systematically collected on six topic areas that appeared key to understanding northern impact assessment processes (philosophy, information, participation, process, decision-making, geographic context). Methodology adapted from grounded theory was used to organize, study, and analyse the primary data. Overarching themes or 'constructs' were established and provided the means to explore the participant's responses regarding DAP procedural and information requirements on a conceptual level. Underlying insights, perspectives, and positions were identified and interpreted according to *culture, power, participation, and knowledge*.

6.1.1 Assessing the Issues & their Potential Implications

In order to provide recommendations that will contribute to the successful implementation and operationalization of DAP, this section focuses only on the *different* views held by participants regarding the procedural and information requirements. Similar perspectives among the major players are positive forces to the tripartite discussions whereas different opinions may hinder the process. In examining each area of disagreement among the participants, specific issues, potential implications (if issues are not addressed) and possible solutions to facilitate the operation of DAP, are outlined (Appendix 2).

The issues described in the first column of Appendix 2 target the areas which are recognized as potential problems among the tripartite groups. Fourteen issues in total are derived from Chapters 4 and 5, which are the results of data analysis aimed at discovering the main themes grounded within the interview data collected from the participants. The second column describes the potential implications if these issues surrounding procedural and information requirements are not addressed by the key players when formulating policy. Potential implications are based on participants' comments and insights gained from fieldwork. Information presented in the 'possible solutions' column provides an array of ideas proposed by the participants regarding the issues, in addition to the researchers' insight acquired during fieldwork. Contrasting potential solutions are described for some of the issues (eg. legal status of DAP objectives, location and number of Designated Offices), where the other issues are characterized by similar types of suggestions (eg. improving approach to tripartite discussions, resolving conflict of evidence).

6.1.2 Recommendations for Implementing & Operationalizing DAP

Recommendations for the implementation and operationalization of DAP are derived from the series of solutions listed in Appendix 2. As Chapters 4 and 5 demonstrate, the issues used to base the recommendations emerged after a deliberate process of analysing the meaning behind the 563 comments received from key informants. The options deemed to best operationalize DAP are presented in the following sections under common headings; participation, training and education, communication, design, and power. The development of constructs enabled the participants' perspectives on DAP to be explored on a conceptual level and thus, acquire insight into the issues and positions of key players regarding the procedural and information requirements. This insight and improved understanding on the various aspects of DAP were essential to selecting the best 'possible solutions' for applying DAP. The headings were determined after reflecting on, and organizing the array of chosen solutions into areas emphasizing common actions. It is recommended that these suggestions be considered by the DAP boards in forming policy and by those involved in the operationalization of the assessment process.

Participation

Initiatives proposed under the 'participation' component of recommendations are aimed to strengthen local First Nation structures (Table 6.1). It is important to provide as many formal and informal opportunities for First Nations to provide input to DAP processes. Emphasis needs to be placed on First Nation participation as assessors and

Table 6.1: Recommendations on Participation

PARTICIPATION

- First Nations develop 'local working groups' to identify and articulate their positions regarding the proposed development
- nominate or hire individuals to DOs that are knowledgeable of local concerns and issues
- nominate leaders to DAP boards who are knowledgeable, culturally sensitive, and support TK
- incorporate an explicit role for First Nation involvement in guidelines regarding monitoring, enforcement, screening, and review
- devise a tripartite discussion strategy that focuses on consistent commitment from certain individuals who can meet frequently
- clearly identify the main approach to tripartite discussions ie. issue by issue basis where each party clearly states their positions
- designate employees to research DAP full time
- YDAB and DOs meet with community (ie. local working group) to identify and incorporate their concerns as required information from proponent
- DAP boards adopt a 'team approach' to carrying out procedures
- develop an environmental monitoring strategy with First Nations in project area
- hire 1 key local 'communication coordinator' from each community to oversee proposals, help proponents attain information to meet requirements set by DAP boards, and to relay local concerns
- allow community members (ie. local working groups) to access and review proposals at the screening stage, and provide comments to YDAB or DOs
- mandatory requirement for proponents and potentially affected communities to devise a collaborative research strategy for large project proposals
- First Nations devise a program to collect and document TK at a local level ie. Elders Council

public members throughout the process rather than on merely the inclusion of traditional knowledge. First Nations want to gain control over development on Settlement and traditional lands, not necessarily oppose it.

Developing 'local working groups' and establishing a position for a 'local communication' coordinator helps to bring control and responsibility down to First Nation communities. Local working groups allow First Nations to establish their position regarding proposed development and voice their opinions as 'public' during community consultation or panel review hearings. Funding should also be made available to create 'Elders Councils'. Elders would regain their traditional roles as leaders and educators where TK would be promoted through teachings, skills, stories, and traditional values. It also provides elders with an advisory role on policy-making, conflict resolution, and documenting traditional knowledge.

Nominating culturally aware people to YDAB is important as it is viewed as free standing, and relies upon its discretionary powers to make recommendations. Clear guidelines on First Nation involvement throughout the process need to be set because First Nations are learning their new role as decision-makers and assessors.

Training and Education

'Training and education' initiatives outlined in Table 6.2 describe opportunities for reciprocal learning among administrators, managers, communities, and proponents. Judgement calls are part of any assessment process. Assessors and decision-makers should therefore take part in cross-cultural training to gain cultural sensitivity and increase their knowledge about issues central to other people. Cross-cultural training and

Table 6.2: Recommendations on Training and Education

TRAINING & EDUCATION	
•	educate the public on their role and specific opportunity to participate in DAP procedures
•	devise and implement training workshops for First Nations to work on all aspects of impact assessment
•	increase western manager's awareness on First Nations' experience and knowledge that contribute to DAP through workshops and cross-cultural training
•	phase timing of First Nation training in accordance with the development of procedural guidelines
•	conduct workshops or meetings for councils, boards, public, to educate people and elicit their comments early in the tripartite discussion process
•	teach proponents how to prepare and ask the right questions to obtain First Nation information relevant to the proposal
•	educate First Nations and government on the nature of traditional knowledge
•	prepare First Nations with skills to participate on committees and boards ie. TACs, DOs, local working groups, elders council
•	proponents train First Nations in affected communities how to document, use, and analyse TK

workshops will help raise the awareness of DAP board members, communities, and proponents, on the strengths of each knowledge type to complement the limitations of each. Education is a crucial first step for western resource managers to accept TK as a valid information source.

First Nations also require training in order to learn the necessary skills for taking on their new responsibilities. Types of training programs will have to respond to the varying education levels and interests of First Nations, such as consultation practices, report writing, documenting TK, and field work. Due to the lag time associated with learning new skills, training should be coordinated with the development of policy enabling First Nations to respond proactively to development proposals.

Communication

Another area of recommendations focuses on 'communication' (Table 6.3). Formal, yet open, communication encourages participation and acceptance of other world views. Establishing a comprehensive communication strategy will benefit DAP in terms of facilitating the learning process regarding different cultures, making the procedures more efficient, and building trust that helps to form partnerships.

Forming a First Nation 'peer review committee' will foster an understanding of information exchange processes among the key players. The committee can provide DAP board members and proponents with advice regarding the nature and use of traditional knowledge. Efficiency will be achieved by ensuring that steadfast communication mechanisms are implemented. For example, First Nation communities that may be affected by projects proposed in their traditional territory require ample notification in order to organize locally and begin researching their positions. Determining working definitions for concepts and terms also promotes the exchange of information, as all three groups build a common frame of reference which is agreed upon. Trust is also promoted by

Table 6.3: Recommendations on Communication

COMMUNICATION

- establish tight notification procedures between YDAB, DOs, and local working groups to ensure early involvement of First Nations
- First Nations and the proponent develop community consulting strategies prior to project assessments
- strengthen communication between local communities, assessors and decision-makers
- CYFN organize a working group to conduct workshops on defining TK with First Nations, public, and bureaucrats
- provide a definition of 'technical advice' that includes DO staff, TACs, consultants, government, and *elders*
- YDAB develop guidelines on specific information types required for certain projects
- establish a First Nation 'peer review committee' where proponents and DAP boards can seek advice on utilizing TK in procedures
- each First Nation establishes a network and directory of expertise, and prepares lists of consultants

establishing strong communication ties. Proponents can build 'partnerships' with First Nations, especially in forming consulting strategies entailing; 1) who to address (elders, harvesters), 2) when to contact them (not interfere with hunting seasons), 3) preferred contact methods (meetings, radio, newspaper, house visits), and 4) information dissemination (community centre, bulletin).

Design

Initiatives proposed under 'design' refer to specific procedures and mechanisms that would facilitate the operationalization of DAP (Table 6.4). The aim of these recommendations is to provide guidance on specific aspects of the process, especially on culture and knowledge.

Proponents are legally required to report on traditional and cultural issues. Direct association with First Nations is the optimal way of accessing and collecting relevant information. However, clear guidelines from YDAB are needed to detail the expected information requirements and to suggest ways of addressing them. These guidelines will give the proponent certainty regarding their role and expectations in the assessment process. Conflicting information is expected as DAP incorporates two different world views. One authority (ie. YDAB) should be designated to develop resolution methods with time and experience, and therefore, maintain consistency in practice. The link between Regional Land Use Plans (another provision in the UFA) and project assessment need to be enforced as each plan is comprised of First Nations goals, values, directions, and traditional knowledge for a given area. YDAB and DOs should give considerable weight to Land Use Plans in forming their recommendations. A Decision Body should be required to provide rationale in the Decision Document for project approval when it opposes the content of a Land Use Plan.

Table 6.4: Recommendations on Design

DESIGN

- ensure that YDAB and DOs stipulate specific information requirements from the proponent on all aspects of the project
- guide development actions and mitigative measures to meet the needs of First Nation communities
- enforce consideration of RLUP (s.12.17.0); Decision Body must provide rationale in the Decision Document if an approved proposal does not conform with the land use plan
- YDAB provide guidelines on s.12.4.2 terms and suggest methods to address them
- designate one responsible authority to deal with conflict situations, including conflict of evidence
- develop a standard code of practice on methods available to solve conflict of evidence
- provision for mediation if conflict arises
- DAP boards develop guidelines to specify components of initial project proposals that must refer to TK
- devise methods that describe general TK details & make working guidelines available to proponents
- YDAB and DOs develop clear guidelines for weighting/ considering more 'subjective' impacts and ensure they are applied consistently
- design YDAB and DO screening and review criteria based on traditional and western knowledge
- develop a set of accepted TK research standards that provide consistency and certainty to proponents

Power

Recommendations outlined under 'power' are aimed at decentralizing the environmental assessment to the community level, and equalizing jurisdictional and administrative authority of First Nations (Table 6.5). Enforcement of DAP procedures and information requirements is also identified as an important component.

Establishing a number of regional Designated Offices based on either Tribal Council regions (five in the Yukon), or on the level of resource development in traditional areas is recommended. Thus, First Nations still have good access to resources and information regarding projects in their area, while government is able to provide better training and technical support to maintain the functions of Designated Offices. A 'user pay' principle should be developed and implemented by First Nations. That is, First Nations are solely responsible for *organizing* and maintaining the collection of their knowledge, where proponents are required to pay a fee for obtaining and using traditional knowledge. A direct relationship between the proponent and First Nations helps to close the communication gap while First Nations keep control and gain respect of their knowledge.

Culture is always evolving, and therefore, knowledge and land practices also experience constant change. By placing the DAP objectives in legislation, First Nation participation and use of their knowledge is guaranteed in the process while allowing them to unfold over time. As First Nations have the discretionary power to contribute traditional knowledge, it is recommended that YDAB be given subpoena powers enabling information to become 'required' in situations where necessary to conduct a comprehensive assessment. This ensures availability of information from First Nations since they

Table 6.5: Recommendations on Power

<p><i>POWER</i></p> <ul style="list-style-type: none">• develop and implement a 'user pay' principle for TK• place DAP objectives in legislation• First Nations retain discretionary powers over the use of their knowledge• each First Nation develops a policy on TK ownership and compensation for local experts that provide information• give YDAB subpoena powers• give working definition of TK legal status• establish a number of <i>regional</i> Designated Offices
--

maintain strong ownership over it due to the close relationship it has to their survival.

6.2 Summary of Findings

The incorporation of traditional knowledge into an impact assessment framework offers an alternative perspective on human-environment relationships based on different cultural world views, offering new insight into environmental interrelationships. Yukon Development Assessment Process (DAP) represents an innovative approach to managing resources through the promotion of an equal partnership between the federal and territorial governments, and the Yukon First Nations.

First Nations must maintain a primary role in applying their knowledge to

environmental assessment procedures to ensure that the full, holistic nature of traditional knowledge is integrated into decision-making, rather than 'selected' components of their knowledge. Ideas on what constitutes traditional knowledge may change over time, therefore criteria outlining its use will have to be flexible enough to accommodate a variety of situations, activities and goals. Policy-makers must first grasp traditional knowledge concepts and uses along with existing institutional structures before any mechanisms can be developed to 'drive' it.

In order to employ successfully traditional and western knowledge types under one environmental assessment framework, several factors need to be considered. First, the two knowledge types need to be treated as separate, *parallel* systems rather than as an integrated one. Second, First Nations must maintain control over their knowledge. Third, there is a necessity to understand and apply traditional knowledge in its entirety. Fourth, the benefits of each knowledge system need to be recognized and distributed equally. Mutually agreed upon definitions is the fifth factor to create harmonious use of both knowledge systems. Finally, tolerance and acceptance of different modes of expressing information is the sixth criteria.

The key to creating a successful environmental assessment process in the Yukon requires:

- First Nation and Western cultures *both* to develop the assessment framework (ie. rules and provisions for administrative structures, responsibilities, information requirements, power status)

- **First Nation and Western cultures to agree on a set of established criteria and procedures that drive the process**
- **to create a fair process by accommodating both cultures instead of assimilating the subordinate into the dominant one**

First Nations and Westerners have both used impact assessment techniques in the past where decisions were made based on the pros and cons of a set of criteria, thus, it is not strictly a western concept. The *criteria* used to make decisions distinguishes the two approaches because they are based on culture, entailing world views, knowledge, beliefs, and values. The key is to recognize that there is equality in differences. Conventional assessment frameworks must be modified to create an assessment process that has roots in both cultures. DAP is the expression of a modern planning initiative based on the strengths of two different cultures in the Yukon.

Northern impact assessment is changing to accommodate First Nations, albeit slowly, but DAP is unique in terms of its emphasis on project design and planning instead of project approval. The Development Assessment Process is progressive in that it attempts to incorporate two different world views. First Nations, however, are at a point where they must decide how to balance both cultures; what modern ways to adopt and what traditional ways to maintain. Procedural and information requirements of DAP policy must stay flexible enough to allow adjustments in strategy, structure, norms, power, and control to unfold with time.

6.3 Contributions, Limitations, and Future Research Opportunities

Research Contributions

The practical contribution of this research lies in the overall aim of developing recommendations for implementing DAP based upon first hand experience of participants from Yukon organizations. Tripartite discussions are currently ongoing between DIAND, YTG, and CYFN groups regarding DAP legislation where the expected date for completion is December, 1997. The UFA (1993) outlines an agreed upon framework for legislation and the ensuing policy required for implementation. In-depth analysis of interviews provided the data and the structure for examining the participants' perspectives on procedural and information requirements of DAP policy according to four constructs (*culture, power, participation, knowledge*). The participants' positions were summarized, areas of difference identified, resulting in the opportunity to offer recommendations regarding the emergent issues. These recommendations are intended to guide DAP tripartite groups in forming policy on the nuances associated with DAP operationalization.

In a theoretical context, this research contributes to the literature on incorporating traditional knowledge and western science under one impact assessment framework. Developing a systematic way of employing TK fairly and effectively in environmental decision-making, and identifying mechanisms that include local cultural values in the decision process, are both challenges to establishing an effective assessment process in cross-cultural situations (Colorado, 1988; Doubleday, 1993; Reed, 1990; Shapcott, 1989; Smith, 1993; Stevenson, 1996). Results from this research addressed some of these issues and attempted to provide some solutions in terms of harmonizing two

different world views into a structured assessment process.

Limitations of Research

Two factors relating to the purpose and the analytical methods limit the research presented in this thesis. In undertaking research relating to cultural perceptions of the environment, it is critical to realize that cultural variation exists within indigenous 'groups'. First Nations are tribal in nature, and therefore, may not hold homogenous views towards the environment. Each First Nation is responsible for identifying their own valued environmental and cultural components of their Settlement land, and to define their direction for future development. It is important to recognize that the recommendations offered in this thesis provide a broad framework for the design of implementation policy to operationalize DAP. It emphasizes characteristics of Yukon First Nation knowledge and experience that can be incorporated into an assessment process and is not intended to make generalizations regarding all First Nation groups.

Secondly, the analytical process used to organize and summarize the data in a manner that best represented the participants' views was influenced by the researchers' conceptual learnings and biases. Grouping responses into categories, sub-categories, and themes was accomplished by a series of decisions to capture the underlying issues. Other individuals carrying out this analysis process may derive different names for the categories, sub-categories, and themes, however, the knowledge 'grounded' in the responses should remain relatively consistent.

Future Research Opportunities

As research was conducted in the early drafting stages of DAP legislation, respondent information only represents a 'snapshot' of the progress made in the tripartite discussions. Although the recommendations were based on the collected data, the process is continually evolving and further issues will emerge that must also be addressed. Future research lies in reviewing DAP case studies to determine if the set procedural and information requirements achieved equality in; 1) participation of key players and, 2) the incorporation of different knowledge types. Only when DAP policy has been implemented for a few years will it be evident if new ground is gained for northern environmental assessment.

BIBLIOGRAPHY

- Appiah-Opoku, S. 1994. Theoretical Orientations of Environmental Assessment in Canada: Application to the Third World. *Environments*, 22(3):103-110.
- Arctic Institute of North America and Joint Secretariat-Inuvialuit Renewable Resource Committees. 1996. Circumpolar aboriginal people and co-management practice: current issues in co-management and environmental assessment. Proceedings: Inuvik, NWT, November 20-24, 1995. Calgary: Arctic Institute of North America, University of Calgary. 156p.
- Armour, A. 1979. Information Resources for Environmental Impact Assessment. York: Faculty of Environmental Studies; York University. Working Paper #2. 146p.
- Arrahutainaq, L. and B. Flemming. 1991. Community-based observations on sustainable development in southern Hudson Bay. *Alternatives*, 8(2):9-11.
- Beanlands, G. and P. Duinker. 1983. *An Ecological Framework for Environmental Impact Assessment in Canada*. Halifax: Institute for Resource and Environmental Studies and FEARO. 87p.
- Berger, T.R. 1977. *Northern Frontier, Northern Homeland*. 2 vols. Department of Supply and Services, Ottawa.
- Berkes, F. 1993. Traditional ecological knowledge in perspective in *Traditional Ecological Knowledge: Concepts and Cases*. J. Inglis (ed.). Ottawa: International Program on Traditional Ecological Knowledge and International Development Research Centre. pp.1-9.
- Berkes, F. 1981. Some environmental and social impacts of the James Bay Hydro-electric Project, Canada. *Journal of Environmental Management*, 12:157-172.
- Berndt, R. 1982. Traditional concepts of aboriginal land in *Aboriginal Sites, Rights and Resource Development*. R. Berndt (ed.). Perth: University of Western Australian Press. pp.2-11.
- Bisset, R. 1988. Developments in EIA methods, in *Environmental Impact Assessment: Theory and Practice*. P. Wathern (ed.). London: Unwin Hyman. pp.47-61.
- Bone, R. 1992. *The Geography of the Canadian North: Issues and Challenges*. Toronto: Oxford University Press. 284p.
- Bowles, R. 1981. *Social Impact Assessment in Small Communities*. Canada: Butterworth & Co. 129p.

- Brody, H. 1981. *Maps and Dreams: Indians and the British Columbia Frontier*. Vancouver: Douglas & McIntyre.
- Bryant, S. 1996. Tourism Industry Association of the Yukon (*pers. comm.*).
- Cayne, B. *et al.* 1988. *The New Lexicon Webster's Encyclopedic Dictionary of the English Language*. New York: Lexicon Publications, Inc. 1149p.
- Cole, D. 1992. A Rapid Rural Appraisal (RRA) Method of Research: Traditional Ecological Knowledge (TEK) Use Among the Naskapi of Northeastern Quebec. Manuscript report prepared for the Canadian Environmental Assessment Research Council. 29p.
- Colorado, P. 1988. Bridging native and western science. *Convergence*, 21(2/3):49-67.
- Crowe, K. 1991. *A History of the Original Peoples of Northern Canada*. Kingston: McGill-Queen's University Press. 284p.
- Cruikshank, J. 1984. Oral tradition and scientific research: approaches to knowledge in the north, in *Social Science in the North: Communicating Northern Values*. Ottawa: ACUNS Occasional Studies No. 9. 28p.
- Day, J.C. *et al.* 1977. A strategy for hindsight evaluation of environmental impacts, in *Environmental Impact Assessment in Canada: Processes and Approaches*. M. Plewes and J. Whitney (eds.). Toronto: University of Toronto, Institute for Environmental Studies. pp.171-179.
- Dene Cultural Institute. 1991. Guidelines for the Conduct of Participatory Community Research to Document Traditional Ecological Knowledge for the Purpose of Environmental Assessment and Environmental Management. Manuscript prepared for the Canadian Environmental Assessment Research Council. 38p.
- Dene Cultural Institute. 1993. Traditional Ecological Knowledge and Environmental Impact Assessment, in *Traditional Ecological Knowledge and Environmental Impact Assessment*. Ottawa: Manuscript Report Prepared for the Canadian Environmental Assessment Research Council. pp.6-27.
- Department of Indian Affairs and Northern Development (DIAND). 1996. Traditional Knowledge Working Group. Whitehorse: Workshop Discussion Papers, April 1996.
- Dias, A. and M. Begg. 1994. Environmental policy for sustainable development of natural resources. *Natural Resources Forum*, 18(4):275-286.

- Doubleday, N. 1993. Finding common ground: natural law and collective wisdom, in *Traditional Ecological Knowledge: Concepts and Cases*. J. Inglis (ed.). Ottawa: International Program on Traditional Ecological Knowledge and International Development Research Centre. pp.41-53.
- Doyle, D. and B. Sadler. 1996. Environmental Assessment in Canada; Frameworks, Procedures, and Attributes of Effectiveness. A Report in Support of the International Study of the Effectiveness of Environmental Assessment. Ottawa: Minister of Supply and Services, Canadian Environmental Assessment Agency. 26p.
- Duerden, F. and R. Kuhn. 1996. This Land is Our Survival- Managing Land Use After the Vuntut Gwitchin Land Claim. Report (Submitted to the VGFN). 72p.
- Duffy, D. *et al.* 1996. A preliminary assessment of shared decision making in land use and natural resource planning. *Environments*. 23(2):1-15.
- Durst, D. 1994. "Heavy sledding": barriers to community participation in Beaufort Sea Hydrocarbon Developments. *Community Development Journal*, 29(1):62-74.
- Everitt *et al.* 1988. Environmental Assessment Processes in the Yukon. Report to Renewable Resources Directorate Indian Affairs and Northern Affairs. Vancouver: ESSA Environmental and Social Systems Analysts Ltd. 92p.
- Everitt, R.R. 1986. Native roles in monitoring energy developments, in *Native People and Renewable Resource Management*. The 1986 Symposium of the Alberta Society of Professional Biologists. Edmonton: Alberta Society of Professional Biologists. pp.44-48.
- Ferguson, M. and F. Messier. 1997. Collection and analysis of traditional ecological knowledge about a population of arctic tundra caribou. *Arctic*, 50(1):17-28.
- Gamble, D.J. 1978. The Berger Inquiry: an impact assessment process. *Science*, 199(3):946-951.
- Geisler, C. *et al.* 1982. *Indian SIA: The Social Impact Assessment of Rapid Resource Development on Native Peoples*. Michigan: University of Michigan, Natural Resources Sociology Research Lab. 448p.
- Gibson, R. 1993. Environmental assessment design: lessons from the Canadian experience. *The Environmental Professional*, 15:12-24.
- Gilpan, A. 1995. *Environmental Impact Assessment: Cutting Edge for the 21st Century*. Cambridge, U.K: Cambridge University Press. 182p.

- Goehring, B. 1993. *An Introduction to Their Past, Present and Future*. Saskatoon: Purich Publishing. 66p.
- Government of Canada. 1993. *Comprehensive Land Claim Umbrella Final Agreement*. Ottawa: Minister of Supply & Services Canada. 292p.
- Government of Canada. 1990. *Federal Environmental Assessment. New Directions*. Ottawa: Federal Environmental Assessment Review Office.
- Government of Northwest Territories (GNWT). 1991. *Report of the Traditional Knowledge Working Group*. Yellowknife: Dep't of Culture and Communications. 116p.
- Grima, A. 1985. Participatory rights: integrating public involvement in environmental impact assessment, In *Environmental Impact Assessment: The Canadian Experience*. J. Whitney and W. Maclaren (eds.). Toronto: University of Toronto, Institute for Environmental Studies. pp.33-51.
- Grimble, R. and M-K. Chan. 1995. Stakeholder analysis for natural resource management in developing countries. *Natural Resources Forum*, 19(2):113-123.
- Henderson, L. 1992. *Environmental Impact Assessment in the North Yukon: Options for Harmonization*. Report to Yukon Renewable Resources. Whitehorse: Tuak Environmental Services. 41p.
- Inglis, J. 1993. *Traditional Ecological Knowledge and Management: Concepts and Cases*. Ottawa: International Program on Traditional Ecological and International Development Research Centre. 142p.
- Johannes, R.E. 1993. Integrating traditional ecological knowledge and management with environmental impact assessment, in *Traditional Ecological Knowledge and Management: Concepts and Cases*. J. Inglis (ed.). Ottawa: International Program on Traditional Ecological and International Development Research Centre. pp.33-40.
- Johnson, M. 1992. *Lore: Capturing Traditional Environmental Knowledge*. Hay River, NWT: Dene Cultural Institute and the International Development Research Centre. 190p.
- Jorgensen, D. 1989. *Participant Observation: A Methodology for Human Studies*. Applied Social Research Methods Series, Vol. 15. London: Sage Publications. 132p.
- Keeping, J. 1989. *The Inuvialuit Final Agreement*. Calgary: The University of Alberta, Canadian Institute of Resources Law. 160p.
- Keith, R. and P. Mulvihill. 1995. Organizational development and environmental assessment in Canada's north. *Environment*, 23(1):71-81.

- KimmeI, A. 1988. *Ethics and Values In Applied Social Research*. Applied Social Research Methods Series, Vol. 12. London: Sage Publications. 160p.
- Kuhn, R. and F. Duerden. 1996. A review of traditional environmental knowledge: an interdisciplinary Canadian perspective. *Culture*, XVI(1):71-84.
- Kuhn, R. *et al.* 1994. Government agencies and the utilization of indigenous land use information in the Yukon. *Environments*, 22(3):76-84.
- Lalonde, A. and S. Akhtar. 1994. Traditional knowledge research for sustainable development. *Nature & Resources*, 30(2):22-28.
- Lalonde, A. 1991. Applied Traditional Ecological Knowledge: A Case Study Review into some Positive Integrations of Canadian Aboriginal Traditional Ecological Knowledge for Joint Sustainable Resource Management and Environmental and Social Impact Assessment. Prepared for the Canadian Environmental Assessment Research Council and the Federal Environmental Assessment Review Office. 43p.
- LeBlanc, C. 1995. Developing Criteria for an Implementation Strategy for the Vuntut Gwitchin Final Agreement, Yukon. Guelph: University of Guelph, Dep't of Geography. (M.A. Thesis). 188p.
- Lee, B. 1984. "Product" versus "process": developing perspectives on SIA. *Environments*. 16(1):9-29.
- Lerner, S. 1983. Social impact assessment: where are we going?, in *Issues in Environmental Impact Assessment*. A. Armour (ed.). York University, Faculty of Environmental Studies, Working Paper # 4. pp.31-43.
- Linzey, A. 1995. Traditional Ecological Knowledge: Alternative Perceptions for Conservation Management. Auckland: Dep't of Geography, University of Auckland. (M.A. Thesis). 180p.
- MacPherson, N. and G. Netro. 1993. Community impact assessment and Old Crow, Yukon, in *Traditional Ecological Knowledge and Environmental Assessment*. B. Sadler and P. Boothroyd (eds.). Manuscript report prepared for the Canadian Environmental Assessment Research Council. pp.41-55.
- MacPherson, N. and G. Netro. 1989. Community Impact Assessment: The Community of Old Crow, Yukon. Manuscript report prepared for the Canadian Environmental Assessment Research Council. 36p.
- Manzie, N. 1994. The Path Between World Views: The Synthesis of TEK, WSK and Co-Management. Ottawa: Carlton University, Dep't of Integrated Sciences. (BSc. Thesis). 95p.

- Marshall, C. and G. Rossman. 1989. *Designing Qualitative Research*. London: Sage Publications. 174p.
- Masuzumi, B. and S. Quirk. 1993. A Participatory Research Process for Dene Communities. NWT: Prepared by Dene Tracking. 13p.
- May, T. 1993. *Social Research: Issues, Methods and Process*. Philadelphia: Open University Press. 193p.
- McClellan, C. 1987. *Part of the land, part of the water: a history of the Yukon Indians*. Vancouver: Douglas & McIntyre. 325p.
- McKay, I. 1986. *Geography: An Introduction to Concept and Method*. Iowa: Kendall/Hunt Publishing Company. 145p.
- Meredith, T. 1995. Assessing environmental impacts in Canada in *Resource and Environmental Management in Canada: Addressing Conflict and Uncertainty*. B. Mitchell (ed.). Toronto: Oxford University Press. pp.360-383.
- Mitchell, B. 1989. *Geography and Resource Analysis*. England: Longman, Scientific and Technical. 368p.
- Mulvihill, R. 1990. Adaptive Environmental Assessment in Canada's North. Manuscript report prepared for the Canadian Environmental Assessment Council. 28p.
- Nakashima, D.J. 1990. Application of native knowledge in EIA: Inuit, eiders and Hudson Bay oil. Prepared for Canadian Environmental Assessment Research Council.
- Notzke, C. 1995. A new perspective in aboriginal natural resource management: Co-Management. *Geoforum* 26(2):187-209.
- Okrainetz, G. 1994. The integration of traditional ecological knowledge and scientific knowledge in the assessment of cumulative effects: the experience of the Hudson Bay programme in *Cumulative Effects Assessment Canada: From Concept to Practice*. A. Kennedy (ed.). Calgary: Alberta Association of Professional Biologists. pp.149-158.
- Ortolano, L. 1984. *Environmental Planning and Decision Making*. New York: John Wiley & Sons. 431p.
- Pattison, W.D. 1964. The four traditions of geography. *Journal of Geography*. 63:211-216.
- Patton, C. and D. Sawicki. 1986. *Basic Methods of Policy Analysis and Planning*. New Jersey: Prentice Hall. 450p.

- Pell, D. and S. Wismer. 1987. The role and limitations of community-based economic development in Canada's north. *Alternatives*. 14(2):331-334.
- Peterson, G. and R. Gemmell. 1981. Social impact assessment: comments on the state of the art in *Methodology of Social Impact Assessment*. K. Finsterbusch and C.P. Wolf (eds.). Pennsylvania: Hutchinson Ross Publishing Company. pp.386-399.
- Pinkerton, E. 1993. Where do we go from here? The future of traditional ecological knowledge and resource management in native communities, in *Traditional Ecological Knowledge and Environmental Assessment*. B. Sadler and P. Boothroyd (eds.). Manuscript report prepared for the Canadian Environmental Assessment Research Council. pp.70-93.
- Plewes, M. and J. Whitney. 1977. *Environmental Impact Assessment in Canada: Processes*. Toronto: Institute for Environmental Studies, University of Toronto. 199p.
- Portney, K. 1986. *Approaching Public Policy Analysis*. New Jersey: Prentice Hall. 238p.
- Prystupa, M. 1994. Evaluation of Yukon Environmental Assessment Interest Representation. London: University of Western Ontario, Dep't of Geography. (PhD Thesis). 177p.
- Reed, M.G. 1988. Native Involvement in Environmental Impact Assessment: A Comparison of Institutional Approaches. Manuscript report prepared for the Canadian Environmental Assessment Research Council. 59p.
- Reed, M. 1990. Environmental Assessment and Aboriginal Claims: Implementation of the Inuvialuit Final Agreement. Ottawa: Canadian Environmental Assessment Research Council. 67p.
- Rees, W. 1984. The process: did the BEARP work? *Northern Perspectives*, 12(3):4-6.
- Richardson, B. 1991. *Strangers Devour the Land*. Vermont: Chelsea Green Publishing Co. 376p.
- Roots, F. et al. (ed.) 1994. The Role of Science in Environmental Impact Assessment: Workshop Proceedings. Alberta: Athabasca University, Canadian Circumpolar Institute. 45p.
- Rothe, J.P. 1994. *Qualitative Research: A Practical Guide*. Ontario: RCI Publications. 179p.
- Sadler, B. and P. Boothroyd. 1993. Traditional Ecological Knowledge and Environmental Assessment. Manuscript report prepared for the Canadian Environmental Assessment Research Council. 51p.

- Sallenave, J. 1994. Giving traditional ecological knowledge its rightful place in environmental impact assessment. *Northern Perspectives*, 22(1):6-19.
- Sassone, P. 1981. Social impact assessment and cost benefit analysis, in *Methodology of Social Impact Assessment*. K. Finsterbusch and C.P. Wolf (eds.). Pennsylvania: Hutchinson Ross Publishing Company. pp.91-99.
- Shapcott, C. 1989. Environmental impact assessment and resource management, a Haida case study: implications for native people of the north. *The Canadian Journal of Native Studies*, 9(1):55-83.
- Shopley, J. and R. Fuggle. 1984. A comprehensive review of current environmental impact assessment methods and techniques. *Journal of Environmental Management*, 18:25-47.
- Smith, L.G. 1993a. *Impact Assessment and Sustainable Resource Management*. New York: Longman Scientific and Technical. 210p.
- Smith, L.G. 1986. *Reforming Environmental Assessment in Northern Canada*. Waterloo: Wilfrid Laurier University, Dep't of Geography. 37p.
- Smith, W. 1993b. Traditional Ecological Knowledge and the Environmental Impact Assessment Process. Manuscript report prepared for the Canadian Environmental Assessment Research Council. 29p.
- Sommer, B. and R. Sommer. 1991. *A Practical Guide To Behavioural Research: Tools and Techniques*. New York: University Press. 362p.
- Spaling, H. et al. 1993. Evaluating environmental impact assessment: approaches, lessons and prospects. *Environments*, 22(1):63-74.
- Strachan, M. 1988. The truth is changing all the time: an exploration into the nature of Inuit logic. Guelph: University of Guelph, School of Rural Planning and Development. 66p.
- Strauss, A. and Corbin, J. 1990. *Basics of Qualitative Research: Grounded Theory, Procedures and Techniques*. California: Sage Publications Inc. 270p.
- Stevenson, M. 1996. Indigenous knowledge in environmental assessment. *Arctic*, 49(3):278-291.
- Swerdfager, T. 1988. The Effects of Native Land Claims on Public Participation in Environmental Impact Assessment in the Canadian North. Manuscript report prepared for the Canadian Environmental Assessment Council. 170p.

- Tyler, M. 1993. **Spiritual Stewardship in Aboriginal Resource Management Systems.** *Environments.* 22(1):1-8.
- Whitney, J. and V. Maclaren (eds). 1985. *Environmental Impact Assessment: The Canadian Experience.* Toronto: University of Toronto, Environmental Studies. 197p.
- Wolfe, J. *et al.* 1992. **Indigenous and Western Knowledge and Resources Management System.** Guelph: University of Guelph, School of Rural Planning and Development. 40p.
- Wolfe, J. 1989. **Approaches to planning in native Canadian communities: a review and commentary on settlement problems and the effectiveness of planning practice.** *Plan Canada.* 29(2):63-79.
- Wolfe, L. 1987. **Methods for Scoping Environmental Impact Assessments: A Review of Literature and Experience.** Report prepared for the Federal Environmental Assessment Review Office. Vancouver: Larry Wolfe Associates. 60p.
- World Commission on Environment and Development. 1987. *Our Common Future.* New York: Oxford University Press.
- Wright, D. and G. Greene. 1987. **An environmental impact assessment methodology for major resource developments.** *Journal of Environmental Management.* 24:1-16.
- Yukon Territorial Government (YTG). 1996. **DAP Chapter 12 Information Paper.** Whitehorse: YTG. 5p.

APPENDIX

Appendix 1: Final version of interview questions.

Name: _____
Organization: _____
Position: _____
Date: _____
Time: _____
Place: _____

1.0 Philosophy

- 1.1 • In your opinion, what does 'traditional economy' of Yukon Indian people mean?
 - Their 'special relationship' with wilderness?
- 1.2 • What does enhancing the 'traditional culture' of Yukon Indians mean?
- 1.3 • How will First Nation knowledge and experience be incorporated into DAP?
i.e. is participation the primary source of knowledge and information?
- 1.4 • How can First Nation knowledge and experience be ensured in DAP?
i.e. are there specific aspects of DAP that require the use of knowledge and experience?
- 1.5 • Can you give an example of 'First Nation knowledge or experience' that could contribute to DAP?
- 1.6 • If a project proposal does not satisfy one or more of the considerations in s.12.4.2 (i.e. protect the special relationship between First Nations and wilderness environment), will the project be rejected?

2.0 Information

- 2.1 • In your opinion, can traditional knowledge reveal unique impacts?
- 2.2 • Are traditional knowledge and scientific knowledge seen as equally valid for each step of DAP?
- 2.3 • If there is a conflict of evidence between the two knowledge types how can it be resolved?
- 2.4 • Are there any barriers and, or, benefits to the use of traditional knowledge in

DAP? If so, can you describe some?

- 2.5 • How can information be collected to conduct assessments under DAP?

3.0 Participation

- 3.1 • In your opinion, during what part of DAP can or should the public be involved? i.e. during initial scoping? setting terms of reference for reviews? monitoring impacts?

- 3.2 • Do elders and chiefs have an explicit role in DAP decision making processes?

4.0 Process

- 4.1 • From s.12.9.2.1, how will the YDAB determine significant adverse effects to trigger a public review?

- 4.2 • Will specific criteria be used to determine significant adverse effects? If so, can you describe a few examples?

5.0 Decision Making

- 5.1 • Do you know of any trouble points during the negotiations? If so, can you highlight some?

- 5.2 • If a project was proposed on Non-Settlement land but affected land held important by FN on what they identified as traditional territory, would the FN have a say on the Decision Body?

- 5.3 • Who primarily decides what information will be used throughout the various stages of DAP?

6.0 Geographical Context

- 6.1 • In your opinion, is it possible to allow industrial development and provide for environmental protection and protection of traditional culture at the same time?

- 6.2 • What are some of the main differences between DAP and impact assessment processes/ strategies experienced in the Yukon prior to the settlement of the Umbrella Final Agreement? Can you highlight a few?

Appendix 2: Issues regarding procedural and information requirements and their possible solutions.

Issues	Potential Implications if not Addressed	Possible Solutions for Addressing Issues
<p>concern regarding the legal status of DAP objectives</p>	<ul style="list-style-type: none"> • 'guaranteed' participation of FNs and the use of their knowledge & experience is either explicit or implicit 	<ul style="list-style-type: none"> • place DAP objectives in legislation • place DAP objectives in regulations • keep objectives as guiding principles
<p>concern on how to maintain a balance between cultural & environmental protection with development</p>	<ul style="list-style-type: none"> • concerns of the key players may not be met • DAP is not viewed as a fair & comprehensive process • decisions may emphasize political or technical aspects of impact assessment 	<ul style="list-style-type: none"> • ensure YDAB and DOs stipulate specific information requirements from proponents (env., social, cultural, economic, technical) • guide development actions & mitigative measures to meet needs of FN communities • nominate culturally aware people to YDAB • enforce the consideration of a RLUP (s.12.17.0), if proposal does not conform to the plan & is approved, have Decision Body state rationale in Decision Document • quantify First Nation concerns

Appendix 2: Issues regarding procedural and information requirements and their possible solutions (cont.)

Issues	Potential Implications if not Addressed	Possible Solutions for Addressing Issues
<p>provisions do not guarantee the inclusion of FN concerns in project proposals and assessments</p>	<ul style="list-style-type: none"> • FN concerns and values (ie. cultural, spiritual) will not be addressed sufficiently 	<ul style="list-style-type: none"> • FN communities develop 'local working groups' to identify & articulate their positions • nominate or hire individuals to DOs that are knowledgeable of regional concerns & issues • establish tight notification procedures between YDAB, DOs & local working groups to ensure early involvement of FNs ie. 5 days notice with acknowledgement • develop community consulting strategies with proponent prior to project assessment • educate the public on their role & specific opportunities to participate in procedures
<p>provisions ensure the consideration of s.12.4.2 factors but do not recognize if they are adequately addressed, especially on culture</p>	<ul style="list-style-type: none"> • limited FN influence over the assessment process, on Settlement & Non-Settlement land 	<ul style="list-style-type: none"> • hire 1 key local 'communication coordinator' to oversee & help proponents attain information to meet requirements set by DAP boards & relay concerns • YDAB and DOs develop clear guidelines for weighting/ considering more 'subjective' impacts & apply them consistently • YDAB and DOs allow communities or local working groups to review proposals at the screening stage & incorporate the comments

Appendix 2: Issues regarding procedural and information requirements and their possible solutions (cont.)

Issues	Potential Implications if not Addressed	Possible Solutions for Addressing Issues
<p>provisions recognize the equal status of FNs and govt. on DAP boards but do not specify the extent of FN involvement in operating procedures</p>	<ul style="list-style-type: none"> • FN involvement affects accessibility to their knowledge & experience • FN involvement influences govt. respect and recognition of their land management practices 	<ul style="list-style-type: none"> • focus FN involvement on 'subjective' content of impact assessments • devise & implement training workshops for FNs to participate on all aspects of impact assessment <ul style="list-style-type: none"> • increase awareness on FNs' experience & knowledge through workshops & cross-cultural training • phase FN training in accordance with development of procedural guidelines • incorporate explicit role for FN involvement in guidelines on monitoring, enforcement, screening & review
<p>approach to DAP tripartite discussions needs to be improved</p>	<ul style="list-style-type: none"> • lack of cooperation promotes mistrust among key parties hindering the creation of a fair and agreeable assessment framework • delays the meeting of deadlines for legislation and implementation 	<ul style="list-style-type: none"> • devise a tripartite discussion strategy that focuses on consistent commitment from certain individuals who are able to meet frequently • identify a clear approach ie. issue by issue basis • conduct workshops/ meetings for councils, boards, public, to educate & elicit comments early in the process • designate employees to work full time on DAP

Appendix 2: Issues regarding procedural and information requirements and their possible solutions (cont.)

Issues	Potential Implications if not Addressed	Possible Solutions for Addressing Issues
<p>provisions do not specify the requirements for the location and number of DOs</p>	<ul style="list-style-type: none"> • DOs are aimed at 'decentralizing' the impact assessment process; design will affect the degree of community involvement, knowledge of project proposals, and access to information 	<ul style="list-style-type: none"> • establish 1 main DO in Whitehorse to ensure consistency • establish 14 DOs in each FN community • establish a number regional DOs
<p>concern on how to keep the administration of environmental assessment manageable</p>	<ul style="list-style-type: none"> • DAP may not be workable in terms of certainty, time lines, measuring impacts etc. <i>while</i> addressing different values that govern resource use 	<ul style="list-style-type: none"> • provide guidelines on s. 12.4.2 concepts & methods to address them • ensure ample notification is given to potentially affected communities in early proposal stages • YDAB & DO meet with community (ie. working group) to identify & incorporate their concerns as required information from the proponent • teach proponents how to prepare & ask right questions to obtain FN information relevant to the project proposal • DAP boards and panels adopt a 'team approach' to carrying out procedures

Appendix 2: Issues regarding procedural and information requirements and their possible solutions (cont.)

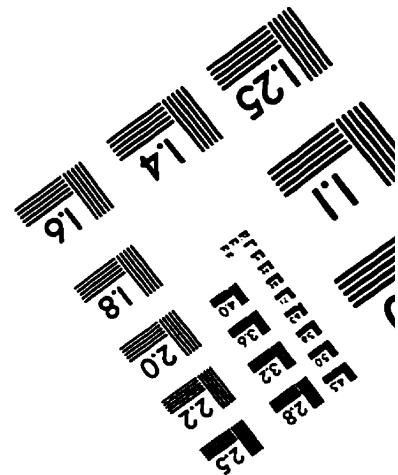
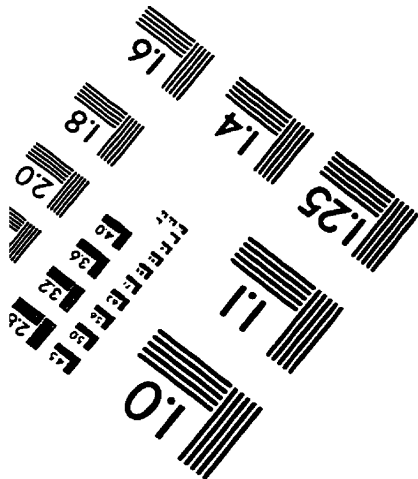
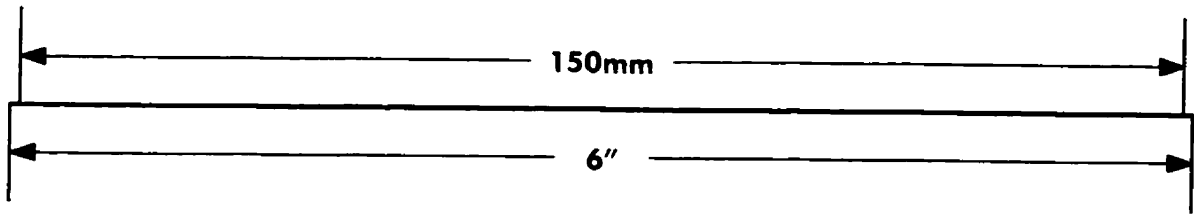
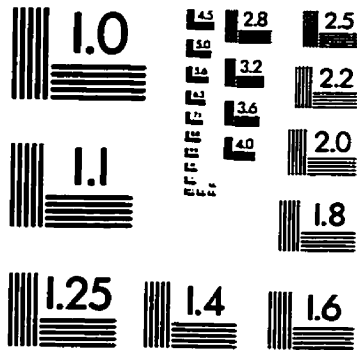
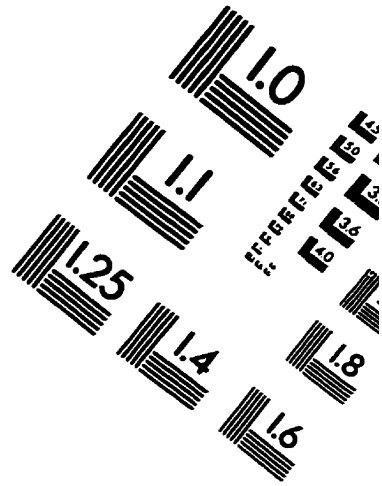
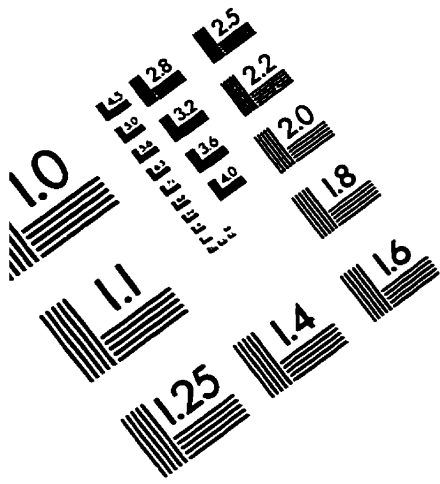
Issues	Potential Implications if not Addressed	Possible Solutions for Addressing Issues
<p>provisions do not specify the information requirements for the DAP tripartite groups</p>	<ul style="list-style-type: none"> • mistrust will be perpetuated if understanding of information 'ownership' is not addressed • impede exchange of ideas and comprehensive investigation of projects as all possible information sources may not be referred to 	<ul style="list-style-type: none"> • set legal requirements where all key players are obliged to give information at any time • FNs retain discretionary powers over the use of their knowledge • each FN develops a policy on TK ownership & compensation for local experts that provide information • give YDAB subpoena powers
<p>common understanding of TK is required among all key players</p>	<ul style="list-style-type: none"> • difficult to determine if information requirements are met by proponent • implementation and operation of policy will be inefficient if there is room for interpretation 	<ul style="list-style-type: none"> • strengthen communication between local communities & assessors & decision-makers • CYFN organize a working group to conduct workshops with FNs, public, and bureaucrats on defining TK • each FN establishes an elders council to define TK at the local scale & coordinate their definitions into one • give working definition legal status

Appendix 2: Issues regarding procedural and information requirements and their possible solutions (cont.)

Issues	Potential Implications if not Addressed	Possible Solutions for Addressing Issues
<p>provisions do not clarify what constitutes equal consideration of TK & WSK in operating procedures</p>	<ul style="list-style-type: none"> • difficult to determine if 'equal' or 'full' consideration is given to both knowledge types • key players may view DAP as unfair 	<ul style="list-style-type: none"> • specify consulting strategies to be employed by proponents • provide a definition of 'technical advice' to include DO staff, TACs, consultants, govt., & elders • design YDAB and DO screening & review criteria based on TK and WSK • YDAB develop guidelines on specific information types required for certain projects • establish a FN 'peer review committee' where proponents & DAP boards can seek advice • mandatory requirement for proponents & potentially affected FNs to devise a collaborative research strategy
<p>provisions do not address how conflicting evidence of information types can be resolved</p>	<ul style="list-style-type: none"> • encourages practice of discarding the subordinate information type • more formal method is needed to minimize role of discretion 	<ul style="list-style-type: none"> • educate FNs and govt. on TK • nominate leaders to DAP boards who support & are knowledgeable of TK • designate one authority to be responsible to deal with conflict situations • YDAB develop a code of practice on methods available to solve conflict • provision for mediation if conflict arises

Issues	Potential Implications if not Addressed	Possible Solutions for Addressing Issues
<p>provisions do not specify a method for the systematic collection of TK</p>	<ul style="list-style-type: none"> • difficult to maintain a record of what has already been collected, resulting in duplication and inefficiency • ad hoc approaches will result in different quality and foci of TK collected 	<ul style="list-style-type: none"> • FNs devise a program to collect & document TK at a local level ie. elders council • each FN establishes a network & directory of expertise, & prepares lists of consultants • develop a set of accepted TK research standards that provide consistency & certainty to proponents • proponents train FNs in each community how to document TK & use the collected and analysed information • establish one central agency in Yukon
<p>provisions do not specify a method for the systematic & formal incorporation of TK</p>	<ul style="list-style-type: none"> • without a proper system describing the use of TK, data can be lost or not reach the necessary people for effective & responsible decision-making • valued environmental & cultural components may be overlooked if full information is not made available & integrated into procedures 	<ul style="list-style-type: none"> • specify components of initial project proposals that must employ TK ie. project alternatives • develop an environmental monitoring strategy with FNs in project area • develop & implement a 'user pay' principle • prepare FNs with skills to participate on committees & boards ie. TACs, DOs, local working groups, elders council • devise methods that describe general TK details & make working guidelines available to proponents

IMAGE EVALUATION TEST TARGET (QA-3)



APPLIED IMAGE, Inc
1653 East Main Street
Rochester, NY 14609 USA
Phone: 716/482-0300
Fax: 716/288-5989

© 1993, Applied Image, Inc., All Rights Reserved