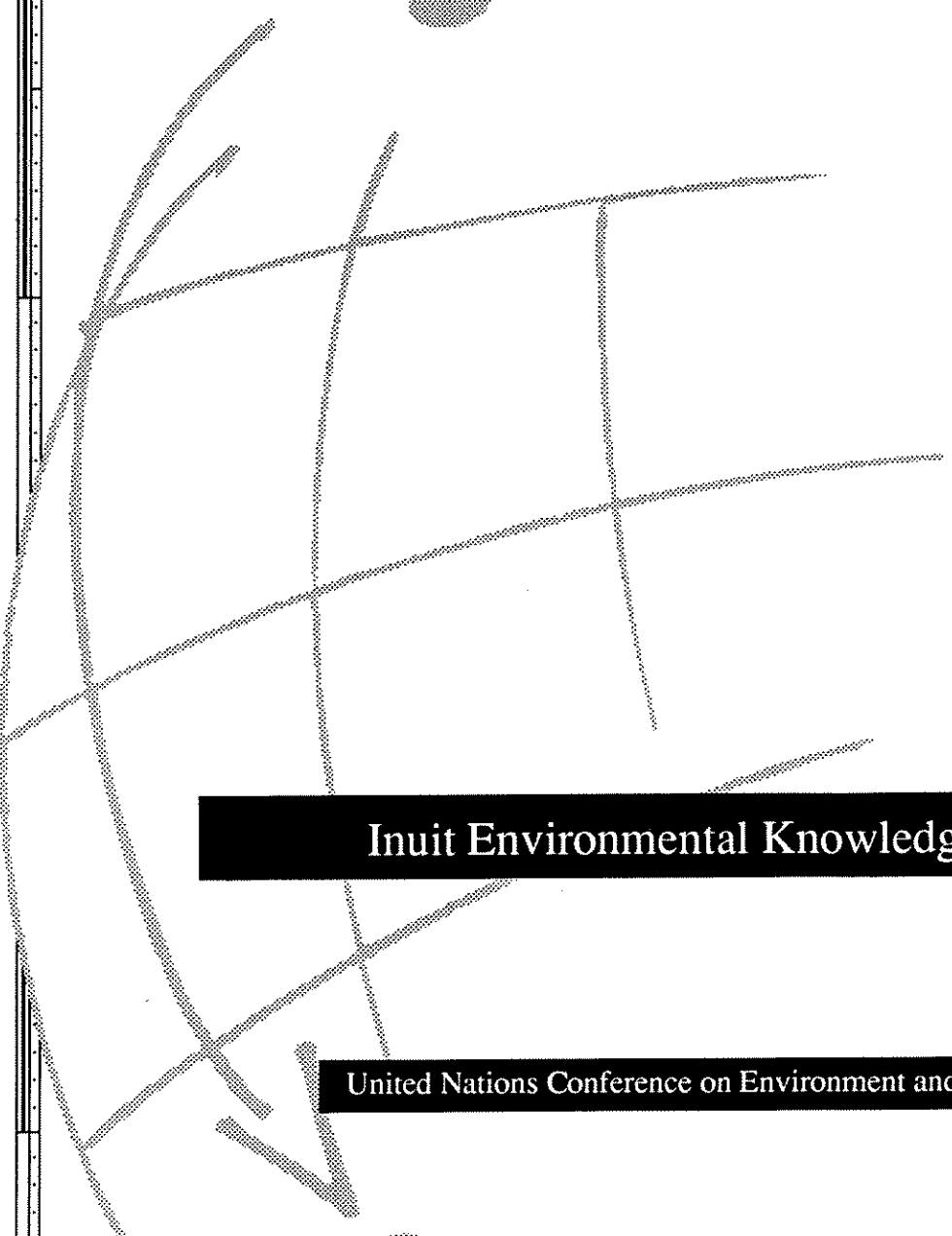


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**Inuit Environmental Knowledge**

**United Nations Conference on Environment and Development**

RIO

**DEVELOPMENT OF A PROGRAM FOR  
THE COLLECTION AND APPLICATION OF INDIGENOUS KNOWLEDGE:**

A Background Paper Based on Twelve Years of Work by  
Makivik Corporation and the Inuit of Nunavik,  
Northern Québec, Canada.

Presented in Conjunction with  
The Inuit Environmental Knowledge Panel Display  
Sponsored by the Inuit Circumpolar Conference  
and Makivik Corporation

The United Nations Conference on Environment  
and Development (UNCED)

Rio de Janeiro  
June 1992

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Reference:

William B. Kemp. 1992. "Development of a Program for the Collection and Application of Indigenous Knowledge. A Background Paper on Twelve Years of Work by Makivik Corporation and the Inuit of Nunavik, Northern Québec, Canada." Inuit Circumpolar Conference.

## Introduction

In the past few years the significance of what is often referred to as indigenous or traditional knowledge has been widely recognized. This is particularly true with respect to knowledge about the environment and ecology of those regions of the earth that have long been the homeland of indigenous peoples, societies or communities. The recent enthusiasm about the potential value of indigenous knowledge, along with a broader acceptance of the reality that such a knowledge base actually exists, should come as no surprise. Studies concerned with indigenous peoples' facts and concepts about the environment in which they live, have long been part of ethnographic research.<sup>1</sup> Unfortunately, most of this early work reflected points of view and techniques of data collection that met the needs and conformed to the standards or values of outside researchers and the institutions that they represented. Indigenous peoples, as subjects of this research, were not in a position to influence the types of studies carried out and they were not given an opportunity to comment on the data that was collected, since the findings usually became part of a literature that was seldom returned to the community.

Although studies on indigenous peoples, societies and communities continue to be carried out, researchers no longer have *carte blanche* to work independently from the people themselves. Nor can they treat the data that they collect as if it was a value free product which can be extracted and used at will. The situation is changing because indigenous peoples are beginning to assert control over their information systems<sup>2</sup> and to develop appropriate institutions, technologies and activities concerned with the documentation, interpretation and application of their knowledge. Nevertheless, problems still arise when indigenous societies and communities begin to translate aspirations for maintaining control over their information systems into programs of action.

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<sup>1</sup> A review of these studies including descriptions of how indigenous peoples apply their environmental and ecological knowledge to the long term sustainability of their communities has been presented in the report entitled *Traditional Peoples' Traditional Knowledge and Management Practices* that was submitted at Prep Com III by the International Indigenous Commission.

<sup>2</sup> The issue of control over indigenous knowledge by the indigenous peoples themselves has been discussed in detail in a paper titled *Intellectual Property Rights and Indigenous Peoples* that was produced by Indigenous Survival International. 1991

Many of the major questions and challenges that must now be faced by indigenous peoples were clearly identified in a statement delivered by Ms. Mary Simon, President of the Inuit Circumpolar Conference at the Plenary Session of the Third Preparatory Meeting of UNCED.<sup>3</sup> In this summary statement the following points were emphasized:

That the United Nations through UNCED has accepted the importance of indigenous peoples' traditional knowledge in achieving sustainable development.

That having this fact recognized is not the last task of the United Nations' agencies concerned with indigenous peoples or of UNCED, but it is rather the first task, since it is now imperative to set a process in motion that will ensure that the traditional knowledge held by indigenous peoples survives to take its rightful place as an important knowledge system.

That in order for this to occur many difficult questions and challenges must be confronted. In particular questions that must be immediately addressed are: what is environmental knowledge; how can it be made available outside of an oral tradition; how can indigenous peoples be assured of control over their knowledge; and, how can knowledge itself be maintained as a "sustainable resource" rather than something that will deteriorate under the assault from often overwhelming social and cultural forces.

That it is accepted this knowledge base is the intellectual property of indigenous peoples and as such it is a resource to be respected and supported rather than exploited or appropriated by non-indigenous institutions, agencies or governments.

That governments and other agencies must reshape their thinking not only to accept that the traditional knowledge of indigenous peoples is a "science" but also to move forward and provide support for programs designed and controlled by indigenous peoples to protect, document and develop their traditional knowledge including the rules which guide its use.

A major concern of the Inuit Circumpolar Conference is that the points identified above do not simply become incorporated into a purely political process. Although the development and protection of indigenous knowledge is in part a political concern of indigenous peoples, political

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<sup>3</sup> The full statement was delivered Ms. Simon at Prep Com III, Geneva, Switzerland , September 2, 1991.

action alone is not enough. If indigenous knowledge is to take its place along with other systems of knowledge, then a major effort to design and carry out the appropriate studies must be initiated as soon as possible. Indigenous societies and communities must also be prepared to develop the institutions that are needed if they are to keep control over the research process and over the information that results from this process.

This background paper has been prepared by the Inuit Circumpolar Conference in order to illustrate a case study of an experience with a successful, long-term program for the collection and use of indigenous knowledge. It is assumed that one of the important elements missing from discussions and debates about these issues and questions are clear examples from indigenous groups that illustrate progress towards creating and controlling a knowledge system based on indigenous information about the environment and ecology of a particular region.

The paper is intended to meet two primary objectives. The first is to identify and discuss practical, yet essential, questions related to the need for and value of indigenous environmental knowledge; the second objective is to propose both a structure and plan of action that can be put in place by indigenous peoples or communities in order to create this knowledge base for their home territory. Specifically, this document will serve:

1. To identify the approach that has been taken by the Inuit of Nunavik towards defining the meaning and content of their environmental/ecological knowledge about their homeland;
2. To illustrate the more important general principles as well as the specific procedures that are needed to organize and carry out research on this topic including the application of computer technology in every phase of the work;
3. To describe the practical, short-term applications of this knowledge base and establish its longer term applications as an essential element in the social, economic and political development of the Nunavik Inuit;
4. To discuss the integration of indigenous knowledge with information derived from other non-Inuit systems of environmental/ecological knowledge;
5. To address the fact that Inuit knowledge of their environment and ecology represents a dynamic body of information that is constantly being modified and expanded;

6. To comment on the appropriate institutions that are required for acquiring and applying this knowledge.

The general ideas and specific findings that are presented in this background paper have been drawn from a long-term study on land use and on environmental/ecological knowledge that is being carried out by the Inuit of Nunavik. The area referred to as Nunavik lies north of the 55th parallel of the province of Québec, Canada. Its geographic position in relationship to the Inuit Circumpolar region is shown in Figure 1.

Although the assumptions, examples and findings presented in this background paper are drawn from one particular society and environmental setting, it is felt that a case study of this type will be useful for planning purposes by other indigenous societies and communities that presently occupy a wide range of varied environmental regions throughout the world. In addition it is hoped that a description of this program will provide insights and suggest directions for governments, non-governmental organizations and other institutions that are anxious to take positive action in support of a world-wide effort to record the intellectual heritage that is expressed through indigenous environmental/ecological knowledge and to then support documentation and environmental research programs initiated and controlled by indigenous peoples.

### **A Working Definition of Indigenous Knowledge**

In the past several years, the existence and significance of a rich indigenous knowledge base about the environment and ecology of differing geographical localities has been widely recognized by both indigenous and non-indigenous societies. Although this recognition is important in itself, questions are still being raised about the real meaning, value and potential applications of this knowledge base. There are also many questions about the methodology and research techniques that are most appropriate for collecting, analyzing and presenting this type of information in its various forms.

# Nunavik, Northern Québec, Canada

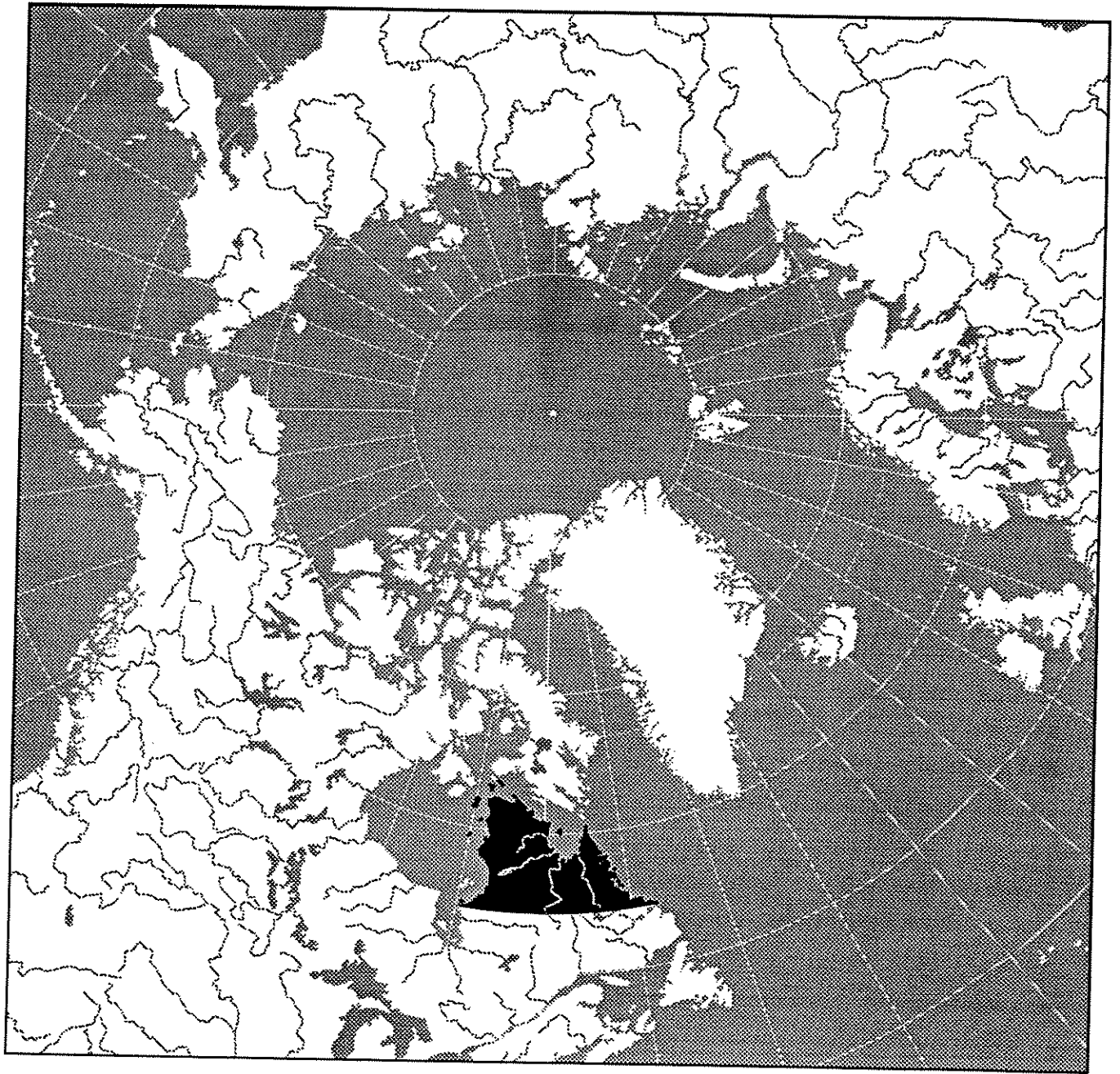


FIGURE 1



At the very outset, it must be pointed out that the terms “indigenous knowledge” is very ambiguous and its usage must be clarified. Many different terms have and are still being used to describe the information that comprises this knowledge base. *Traditional, folk, ethno, local, community based, or customary* are perhaps the most commonly used terms.

The experience from Nunavik suggests that Inuit find certain of these terms misrepresent their own point of view about the value of their knowledge. Some terms, they feel may relegate this knowledge to a status of “intellectual artifact”, while other terms are considered to be derogatory. The following comments from Inuit may clarify this point:

“... (*traditional*) sounds the same as some type of handicraft that we make and then sell to tourists.”

“(*ethno, folk*) ... in the south experts are allowed to talk about how animals behave and they call it science or biology or something like that. But when we use our own knowledge to describe how animals behave, it can never be science; just ethno something or other ... that attitude is a real put-down.”

Directions from the Inuit of Nunavik have clearly stated that the terms used to describe this knowledge base must conform to their preferred usage. The community consultation process in Nunavik revealed that Inuit want the terms to be accurate and to identify particular elements of their knowledge.

“... if the words *traditional Inuit knowledge* are supposed to include everything we know about everything, it looks to me as though we probably don't know too much. I've never heard about everything down south simply referred to as white man's knowledge.”

The terminology that is felt to be most representative and respectful of the breadth and quality of that part of their knowledge system that touches on environment is, *Inuit ecological and environmental knowledge*. If this general category of Inuit ecological and environmental knowledge is directed towards a particular resource or aspect of the environment, then Inuit expect to see these details reflected in the terminology used.

## **The Nunavik Ecological and Environmental Knowledge Research Program**

The content of Inuit ecological and environmental knowledge results from an age-old process of observing, classifying, evaluating and discussing the bio-physical world and then storing both the factual knowledge along with hypotheses or explanations within the structure of the oral tradition. Although it is obvious that over time much of this knowledge may have been lost, it is equally obvious that there is still an incredible wealth of information available in the collective memory of elders as well as younger Inuit.

This knowledge base continues to be an essential element of cultural identity and it is still critical for maintaining patterns of land use and harvesting, even if the activities that define these patterns are now carried out with the use of modern technology and supported by a cash economy. The importance of this knowledge base, however, is not only limited to the pursuit of more "traditional" lifestyles. Its significance is clearly represented in the relationships between Inuit and their territory that are based on resource management, environmental planning and the sustainable development of Nunavik.

Oral traditions are threatened in many of the world's cultural settings, therefore, it is critical that research programs be initiated quickly. The purpose is not simply to salvage a disappearing knowledge base, but rather to reinforce the importance of this knowledge base in a modern context. Recording and documenting elements of the knowledge base is only one of many research activities that must be pursued in order to meeting this objective. Only through this process will indigenous peoples and their communities be able to retain their intellectual heritage and put it work for their own benefit. In so doing, the benefits will be felt by the human community as a whole.

These types of general statements, however, are not sufficient for developing a methodology and research design that can be applied to the actual collection process. As a consequence, in the case study described below, it was necessary to provide a detailed outline of the categories of information that could be collected through the interview process.

The purpose of the Nunavik Inuit ecological and environmental knowledge project was to collect, analyze and preserve the vital information base that Inuit hunters of Nunavik draw upon in their day to day activities. Specifically, the project was designed to:

1. Provide, through maps and descriptive text, a systematic inventory of the biological resources of the marine, freshwater and terrestrial habitats.
2. To locate and describe the geographical areas of wildlife concentration by season and distribution, the seasonal migration routes, and the associated lifecycle activities including time and places for feeding, resting, breeding, birth, etc.;
3. To locate and describe the physical characteristics of the marine, open water and sea ice environments, including the transitional stages between the two. The information included geographical locations and descriptions of characteristics such as currents, tidal features, landscape, patterns of freeze-up and break-up, seasonal ice conditions including the positioning of the floe edge, ice patterns, etc.

The need for this type of information was based on three major concerns expressed by the Inuit.

1. To demonstrate the existence of an indigenous ecological and environmental knowledge base.
2. To record their oral knowledge for use today and for the younger generations to come for whom the oral tradition has lost the primacy it held for the elder living members of the communities.
3. To demonstrate the relationships between land use and occupancy and the physical and biological environments. Hunters were always cautioning the interviewers that it is not enough to ask and record where hunters go, there must also be an understanding of why they use, or do not use particular areas.

Research on ecological and environmental knowledge had a methodology that was based on interviews that recorded and displayed data through the use of maps, audio tapes, and in written text. The long-term objective was for Inuit to have two sources of information to refer to: one from their perspective and the other from the perspective of western science. Eventually these two sources could be combined in order to apply both information bases and perspectives to problem-solving. Care had to be taken throughout the interview process to ensure that Inuit knowledge was not mixed or confused with the information derived from western science.

The systematic recording of this type of information is not a simple procedure, since individuals often do not realize the extent and scope of what they really know. Interviewers had to be extremely sensitive to the difficulties Inuit often encountered during the early stages of the process when they were asked to "explain" what they "knew" about the physical and ecological environment of their territories. The interviewer required hunters to start the process by asking them to think about their knowledge and its meaning. Only then could they begin the painstaking task of articulating the facts, concepts and explanations implied by this knowledge.

The methodology used to collect Inuit ecological and environmental knowledge was based on two types of interviews. The first type was directed at the individual hunters who were asked to provide specific environmental or ecological information within the context of the land-use interview. This approach allowed for a close association between an individual's hunting activity, land-use patterns and environmental conditions that influenced these activities or patterns. It also encouraged hunters to identify and explain changes in activities that occurred over time.

The second technique was the group interview which permitted a more coherent and complete discussion on specific topics and concepts. Procedures for group interviews included identifying individuals who had special interest in and knowledge about a particular ecological or environmental topic or region. These individuals were brought together for a series of group discussions which usually began with specific questions about resources or environment, though the objective was to use these questions to stimulate conversation between hunters, not between hunter and the interviewer. Almost all discussions were in Inuktitut (the Inuit language), and the complexity of topics and liveliness of the discussions meant that translation was too slow and would interfere with the process. Consequently information was tape recorded for translation at a later time and an Inuk facilitator would oversee the placing of information on maps and generally animating the interview.

The material gathered during the group interviews would then be reviewed and transcribed onto a new set of maps. After this, a second, third and often fourth round of group discussions and mapping would take place to put forward additional questions, to clarify contradictions and generally obtain more information. These group discussions were guided by procedures and

techniques which were laid out in a detailed field manual designed over the years of this project to inform interviewers and to standardize, to some extent, the interview process. Maps continued to be fundamental tools for recording information and animating discussion, however, many elements of ecological and environmental knowledge can not easily be recorded on maps. It was critical, therefore, to have tape recorded discussions to permit the production of text to accompany the maps.

The Nunavik experience has clearly shown that this type of research effort requires a serious and systematic approach to all phases of the work, from information gathering to computerization. What is important is that the methodology and the particular data gathering procedures used were always developed with Inuit themselves to achieve a program to meet the criteria and withstand the critique from both Inuit and western-based research.

From 1975 to the present, the Inuit of Nunavik have had to face a staggering number of issues involved with the development of their territory. Along with the James Bay and Northern Québec land claims settlement, came new rights, responsibilities and pressures. The land claims agreement gave rise to new institutions controlled by Inuit that included essential powers related to the management, conservation and development of the territory and resources. At the very outset, it became apparent that the availability of appropriate information was essential for Inuit decision making, and to influence the decision making of others. Only with a solid, defensible indigenous information base was it possible to imagine changing the domination of outside decision making.

At first, Inuit were concerned about having equal access to scientific and other types of western based information that was available concerning their territory. Very soon, however, it became apparent to them that this information, when it existed, was of limited value. It was also apparent that this type of information was far from complete and lacked the capacity to address all of the critical social, economic, political, environmental and educational issues that were confronting Inuit society. At this point the Inuit of Nunavik shifted from an immediate concern with having access to western based information, to one of developing an entirely new information base. Only in this way did they feel that it was possible to create an information base that was truly responsive to their needs and priorities.

Underlying this approach was a growing concern that just to be given access to information sources is not to be given equal ability to utilize this information in the best way possible. The problem is not one of the simple accumulation of western based information, but rather of acquiring an entirely new type of information base and perspective, and to do this in a way that will be of direct use to the Inuit of Nunavik. Otherwise, decision-making will always be resolved in favour of the priorities of others.

The Inuit of Nunavik are committed to creating their own expertise. The first task is to ensure that to the extent possible, their indigenous knowledge base is secure. Over time will emerge the development of an indigenous "scientific" community that is able to utilize both their own knowledge along with the procedures, data, perspective and expertise of western-based information systems.

### **Concluding Remarks**

The material presented above covers some of the most important elements that should be considered when discussing the content and approach of research on indigenous knowledge. In Nunavik, this information was directly linked to the accumulation of land use information and to information on various types of cultural data such as living sites, travel routes, areas of special interest, etc. Together, this forms an incredibly rich data base for use by all levels of Inuit society.

What some readers may find missing is a reference to the more dramatic side of indigenous knowledge. We have yet to find that long arctic plan which can reverse aging or bring about medical breakthroughs (though this has certainly occurred in other parts of the world). What we may expect, however, is to come to a greater understanding of the unique arctic environment, the people it has nurtured and how it related to other areas of the circumpolar north and, eventually to the global environment. In the process, a practical data base has been created. It is a data base that is not out of reach of what the late Inuk archeologist Daniel Weetaluktuk often referred to as the "day to day" Inuk. Here is how he described the process:

“When southern needs and methods are resisting Inuit desires and needs - this is defensive research. Positive research is when Inuit are given fair consideration and there is an understanding of Inuit needs.

A new method of research aimed at encouraging, including and supporting Inuit opportunities to get into the scientific community without giving up their own ways and ideas must come about. This does not mean deterioration of research quality as southern people are often worried about. It would give southern people who have enough of a broad mind to grasp it, a much wider scope and fuller understanding.

It may be difficult for some to consciously accept the Inuit as scientists, capable of carrying out research by themselves. But this reality has to be accepted if the Inuit perception of their northern world is to be incorporated into the research process. It is only fitting that the Inuit should be given a fair and full chance to further their knowledge and expertise of the northern world in more scientific terms but without losing their cultural identity”.

There is presently a very high level of interest by many types of non-indigenous institutions in the whole area of indigenous knowledge. Already, for example, an International Association for the Study of Common Property has been established. A brief review of the panel discussions and papers presented at its second annual meeting (September 1991), clearly illustrates the diversity of studies linked to indigenous knowledge that are being carried out by academics, governments, consultants and other research groups. The activities of these groups and the formal presentation of their findings, theories or models should not be discouraged, but their role and contribution should not be confused with those that result from research carried out by indigenous peoples or within indigenous organizations.

At the same time, great care must be taken to assure that the rights of indigenous peoples concerning their knowledge are protected and that the development of indigenous knowledge systems is not appropriated by these other interested groups in their enthusiasm to pursue this area of study. Care must also be taken to make sure that this current level of interest does not simply translate into a brief “fad”. This emphasis, especially for indigenous organizations must be placed on long-term goals that are met by long term processes and support. The expectations of what this knowledge base can contribute to a better understanding of local, regional or perhaps even global environments must be set by indigenous peoples themselves.

The management and planning related to resources and environment, impact assessment and the development of sustainable economic initiatives in indigenous peoples territories must draw from indigenous ecological and environmental knowledge, but in a manner that compliments its capacities and respects its limitations. The underlying processes of documenting and formalizing this knowledge base will assure that it continues to serve the people not simply because of what it was, but also because of what it will become. Indigenous knowledge is dynamic and represents things that people once knew, now know and have yet to learn.



## **Bibliography**

Indigenous Survival International. "Intellectual Property Rights and Indigenous Peoples".

International Association for the Study of Common Property (IASCP). "Proceedings from The Second Annual Meeting" (see in particular "International Workshop on Indigenous Knowledge and Community-Based Resource Management"). Winnipeg, Canada. September 26-29, 1991.

International Indigenous Commission. "Indigenous Peoples' Traditional Knowledge and Management Practices". A report prepared for the United Nations Conference on Environment and Development. June 1991.

Simon, Mary. "Statement on behalf of the Inuit Circumpolar Conference to the United Nations Conference on Environment and Development, Prep Com III, Geneva, Switzerland. September 2, 1991.

Weetaluktuk, Daniel. in "The Inuit of Nunavik Statement of Claim to the Offshore". Makivik Corporation. June 1991.