Recommendations on the Integration of Two Ways of Knowing: Traditional Indigenous Knowledge and Scientific Knowledge

from the Seminar on the Documentation and Application of Indigenous Knowledge,
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Introduction

The Seminar on the Documentation and Application of Indigenous Knowledge brought together hunters, elders, researchers, and resource managers with expertise in indigenous knowledge, or traditional ecological knowledge (TEK). The 58 participants live or work in Alaska, northern Canada, Greenland, and northern Russia, or are interested in TEK and its applications. The seminar began with presentations by groups working in the four countries on projects documenting and utilizing indigenous knowledge, followed by four concurrent discussion groups. These four groups discussed a range of issues related to the collection and application of indigenous knowledge. Based on these discussions, each group provided recommendations to the seminar on how indigenous knowledge can be perpetuated, documented, applied, and used in conjunction with other forms of knowledge.

The participants emphasized that traditional indigenous knowledge is a way of life, based on the experience of the individual and of the community, as well as knowledge passed down from one's elders and incorporated in indigenous languages. This knowledge is constantly being adapted to the changing environment of each community and will remain current as long as people still use the land and sea and their resources.

The participants also stressed that the work recommended below is urgently needed. In all circumpolar regions represented, the elders who grew up living on the land and sea are passing away, and with them their knowledge of the land and of the traditions of the community. It is essential both that we document the elders' knowledge, and that we promote the continued transmission of that knowledge to today's youth, which must include protecting the use of the land and its resources. Otherwise, traditions and knowledge will be lost, and the people who remain and the generations to follow will be left without the benefit of this irreplaceable heritage.

In particular, there is a need to revive traditional methods of using natural resources for the continued survival of indigenous peoples of the circumpolar north. The participants encourage efforts and actions of all organizations and individuals in restoring, developing, and documenting traditional ways of life, culture, and TEK, in all areas of the north and specifically including preservation of a unique traditional culture of whale hunting in northern Russia.

As the recommendations show, we know a great deal about TEK, but there is a great deal more to be learned. Documenting and preserving the use of indigenous knowledge at the community level and using this knowledge to address resource management issues are complex undertakings. The holders, users, and recipients of indigenous knowledge must respect each other and their cultures if these ideas are to gain wider application. This mutual respect will be necessary as new ideas and approaches are developed for the appreciation, documentation, and application of indigenous knowledge.

Several recommendations address the processes by which TEK can be documented, applied, and integrated into the decision making processes for resource management. They stress a collaborative approach as the starting point for successfully making local knowledge accessible to the scientific community.

Although the recommendations are organized into several categories, they are overlapping and should be considered together. The recommendations are also broad and far-reaching and directed to several audiences. While few researchers, projects, or organizations are able or likely to implement all the recommendations by themselves, awareness of the full range of ideas will help all those involved to understand the directions in which TEK research is headed. In this way, each project can make a partial contribution to the full implementation of the recommendations.

Terminology

There are many terms in use to describe the body of expertise and knowledge held in indigenous communities. Among these are indigenous knowledge, traditional ecological knowledge, indigenous science, ecological wisdom, and many others. None is wholly adequate or satisfactory. The seminar only addressed this issue in passing, with the chairman's observation that "indigenous knowledge" may imply that any indigenous person may have this expertise, when in fact personal experience and learning from the elders are more important factors than ancestry. Because they are widely used terms, these recommendations use as synonyms the terms "indigenous knowledge" and "traditional ecological knowledge" and the acronym, "TEK."

Recommendations

Perpetuating the Use of TEK at the Community Level

To promote the use of indigenous knowledge in the community, ways of documenting the knowledge of community elders and making it locally available should be encouraged. Work in this area is particularly urgent, since so much knowledge is being lost so rapidly.

- Adult/child exchanges of TEK should be encouraged, for example at home, in elder/youth camps, by hunters taking youth out on the land, or in community centers where children and elders can get together. Video and first-hand experience can be used in combination to pass TEK to the next generations. The continued use of indigenous languages is vitally important and should be promoted in these and other settings.

- TEK should be incorporated into the school curriculum through:
  - Adapting the school calendar and requirements to accommodate participation in traditional activities at appropriate times of the year (e.g. spring fishing or whaling)
  - Land-based education which includes elders to pass on TEK plus other academic instructors for other kinds of education so that various methods and subjects can be integrated
  - School-room educational material which is culturally relevant and supplements the experience of living on the land and learning TEK first-hand
  - Asking elders to come to the schools to share their knowledge with the students
  - Indigenous language programs
  - Using artifacts in education
  - Directly involving students in TEK studies, for which they can gain school credit

- The use of multi-media formats incorporating TEK.

(Note that incorporation of TEK into the education curriculum is not a substitute for first-hand experience.)

- A detailed review of the current state of TEK education and perpetuation in northern circumpolar regions should be conducted to assess and evaluate current practices.
- Respect for hunters and other TEK experts in communities should be promoted, through such means as hunter support programs.
- Sustainable renewable resource industries are one means of protecting the continued use of TEK, and should be encouraged by governments and indigenous organizations working together.
- Artifacts should be returned to and kept in the regions from which they came. If local institutions do not exist, they should be established, with funding for curators and education programs.

Community Consultations and Involvement

- In the conduct of TEK projects, researchers should contact and work with appropriate community organizations. In doing so, researchers should allow enough time for consulting with the community about the purpose and methods of the research before it begins, for obtaining consent from the community, and for reviewing draft results of the project with the community.
- Communities should establish or identify the appropriate organizations to consult and design the consultative process so that everyone understands what is required. One outcome of such a process can be a negotiated research protocol between the researcher and the community, which includes details about the procedures and conduct of the project, the extent of local control over use of the information, and matters of intellectual property rights.
- Proposed scientific studies should be reviewed by the communities at all stages of the study. This can be facilitated by a regional screening committee to review proposals to determine their likely impact on or relevance to local communities. TEK should be included in studies where it is possible and appropriate.
- Communities and local organizations should initiate and conduct TEK projects themselves. A starting point is developing a list of information needs and research priorities which address community requirements. Developing local research expertise should also be encouraged, and time and funding should be invested in this.
- Communities should be responsible for recommending or approving interviewees, local interviewers, and workshop participants.
- Communities should be involved in the planning and proposal stages of TEK projects, as well as the interpretation, analysis, and write-up of results.

Documenting TEK

In the process of documenting TEK, the context of the knowledge is difficult to convey, and can be lost. In addition, some of the information is not easily transferred, so that some of the depth of knowledge is lost as well. With these limitations in mind, documentation should nonetheless be recognized as an important step towards integrating TEK with scientific knowledge. A consistent approach to TEK documentation for the entire circumpolar region is desirable, so that results and information can be compared across the Arctic.

- A variety of methods should be used to capture TEK, recognizing that just one method cannot capture all aspects of TEK and that different methods work best for different applications or settings. Be sensitive to the strengths and weaknesses of each approach, and consider combining two or more methods. For example:

  * Use group discussions, individual interviews, maps, and first-hand experience to document TEK for scientific use.

  * Use reports, videos, or photographs to document TEK for the cultural record.

  * Collect and preserve physical artifacts as part of TEK documentation.

- Due to the urgency with which TEK documentation is needed, funding agencies and local organizations should make this work a high priority.

- TEK should be documented and, with community approval, made readily accessible to the scientific community so that it may be referenced and properly cited. In this way, the holders of TEK can be given full recognition and the information will not be regarded as anecdotal data or as a "new discovery" when scientists use it.

- TEK should be gathered from both men and women, since they have different roles and can make equally valuable contributions in different areas of community TEK.

- TEK interviews should be holistic in their approach. Topics should include land, animals, people, culture, language, and environment, as appropriate. All are connected, and the interview should discuss environmental and cultural processes and influences that relate to the subject being studied.

- When possible for both interviewer and interviewee, interviews should be conducted on the land to place the knowledge in its geographic context. Having hunting equipment, animal products, or other relevant materials on hand can also help an interview.

- In documenting TEK, local place names, community concepts and terms should be used. Dictionaries of such specialized terminology related to TEK should be compiled, since such words and terminology are slowly being lost. Government agencies and other research institutions should respect the use of these names and terms as acceptable synonyms for existing terms in the dominant language.

- Youth should be involved in the documentation process so that they learn research skills and

TEK at the same time.

- To ensure elder participation, interviews should be conducted in the local language and meeting proceedings should be translated into local languages, as appropriate in places where this will help include more people. For this work, expert translators are required so that the fine points of statements are not lost.

- When an interview is completed, the researcher should review the substance of the interview with the participant, so that each knows what has been learned from the interview. The information should also be reviewed after initial compilation and interpretation (i.e., during the field work), and again in draft form.

- Researchers should complete projects without long delays, so that TEK information is returned to the community promptly when the study has been completed.

- The community should decide where raw documentation (interview maps, tape recordings, video tapes, notes, etc.) will be archived, and who has access. Local repositories should be created if needed to house these materials.

- The community should decide whether final products (reports, documentary videos or films, maps, etc.) are made accessible to the public or have restricted access. If they are public, then anyone has access to them. If access is restricted, communities must recognize that researchers cannot know what is not made available to them, and cannot be blamed for mistakes that are made as a result.

- Final reports should be distributed and made widely available in the communities.

- Participants in TEK projects should be compensated appropriately and clearly acknowledged in publications, unless they wish to remain anonymous.

- Recognizing the cultural dimensions of TEK and its importance to the community, researchers should ensure that TEK is presented in plain English and in indigenous languages.

Application

- TEK should be made readily available for the co-management processes in place (e.g., for wildlife management and environmental impact assessment). An example of this is the preparation and use of community conservation and wildlife management plans.

- Co-management itself should be recognized as an application of TEK.

- Identification of resource use areas and critical wildlife habitat should be used for purposes of assessing industrial impacts. Hunters' observations of environmental changes should be documented during and after industrial development projects as part of a monitoring program. This process can continue long after the project is completed and other monitoring ceases.

- Scientists should review available TEK documentation while planning their studies, as this can help save time and money while improving the quality and focus of the projects.

- TEK should be incorporated into post-secondary education to increase awareness, understanding, and respect for it by new scientists.

- Cultural awareness and appreciation should be promoted in the general public. This can be done through presentations about TEK and locally-controlled tourism that emphasizes TEK. These types of activities must remain under local control to avoid such problems as interfering with wildlife harvesting and the associated way of life.

Integration

- While TEK and scientific knowledge have inherent strengths and weaknesses, taken together they provide a stronger basis for decision making. Where possible, neither should be used alone. Other types of information, including the social sciences, should also be included.

- Each type of information base should be used to better the understanding of an issue and to help find a solution. Such issues include setting regulations and rules for animal harvests, which cannot be culturally relevant without TEK and may be scientifically unsound as well. To ensure that traditional wildlife management practices are incorporated, elders' knowledge of traditional harvest practices and rules should be documented before it is lost.

- There should be an atmosphere of cooperation, not of competition. For research using TEK to be effective, it has to be a collaborative effort between the researcher and the community.

- Management organizations and permitting processes should facilitate the incorporation of TEK into scientific studies wherever possible by:
    - requiring community consultation and review at the concept and design stage (e.g. to identify the best times and places for research and to avoid interfering with local activities such as hunting)
    - including local researchers/assistants during the delivery and reporting stages, recognizing their expertise and not simply using them as laborers
    - assisting communication between all parties, especially reporting results of studies back to the communities.

  These activities could be coordinated and carried out by a screening committee.

- TEK should be considered an important part of the knowledge base and not a token.

- Programs should be developed for upper management to increase their awareness and understanding of TEK.

- TEK and scientific knowledge are based on different cultural contexts. All who are involved in this work should put themselves in the other's shoes, use open communication, be flexible, and listen.

- Governments, non-government organizations (NGOs), and international organizations should not only incorporate TEK in their programs, but should involve indigenous peoples and local organizations in the development of policies and action plans that affect indigenous peoples and local communities.

Training

- Researchers who may work in indigenous peoples' regions should have cross-cultural training so they can better understand and work with indigenous people. This is a shared responsibility of agencies, universities, and local communities, and could include using TEK in science courses, having elders teach students, and promoting land-based education.

- Community residents should receive training to better understand their own community's history and traditions, as well as the perspectives of science and the western world. This will help them learn the skills needed to conduct TEK work themselves.

- Funding agencies should recognize the need for cross-cultural training and exchanges before research begins, and allow time for this to take place. Specific consideration should be given to allow researchers to learn indigenous languages. Spending time on the land, such as in outpost camps, is an excellent way for researchers to learn about the values and importance of TEK, and should be encouraged.

Background

Indigenous knowledge has been recognized by the Arctic Environmental Protection Strategy (AEPS) as an important aspect of conservation in the Arctic. To help understand how TEK may be used with the AEPS, the Government of Iceland hosted the Seminar on Integration of Indigenous Peoples Knowledge in September 1994. This seminar produced a set of recommendations for the AEPS and its programs, some of which have been implemented.

Also in 1994, the Inuit Circumpolar Conference (ICC) was beginning its project, "Traditional Ecological Knowledge of Beluga Whales: An Indigenous Knowledge Pilot Project in the Chukchi and Northern Bering Seas," carried out in Chukotka, Russia, and Alaska. This project was under the joint lead of Canada and the United States in the AEPS working group on Conservation of Arctic Flora and Fauna (CAFF), and was intended to demonstrate how TEK could be documented for incorporation into the work of the AEPS. The field work for this project was completed in 1996.

In discussing the indigenous knowledge pilot project with representatives of the Fisheries Joint Management Committee (FJMC) in Inuvik in 1994, ICC and the FJMC decided that it would be valuable to bring together many experts who had first-hand experience in similar work around the Arctic. This seminar was the result, and was part of the CAFF work plan for 1996-97. The FJMC hosted the meeting, and was co-organizer with ICC. Beluga whales were chosen as a focus for the seminar, but other subjects were included as well. Therefore, these recommendations are based on a broad range of practical experience.

The FJMC and ICC will forward the seminar's recommendations to CAFF and the AEPS, through the U.S. and Canada as joint leads of the overall project. The FJMC and ICC also hope that the recommendations will be of use to the seminar's participants and their organizations, and to others who are working with these fields and issues throughout the Arctic and elsewhere.

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