

International Workshop on Indigenous Knowledge and Community-Based Resource Management: A Workshop Report

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September 24-26 1991**

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and the
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P. Reichert and M. Spigelman

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Introduction

On September 24-26, 1991, the Canadian Commission for UNESCO, Man and the Biosphere Program (MAB), and the Canadian Environmental Assessment Research Council (CEARC) hosted a workshop in Winnipeg, Canada, intended to examine ways of integrating traditional knowledge with western science in community-based resource management initiatives. MAB and CEARC identified three objectives for the workshop:

- To explore both the differences and the similarities between traditional knowledge and western science.
- To examine the barriers and opportunities which exist for bringing together the strengths of each approach in the context of environmental assessment and community-based resource management
- To develop a set of recommendations which could form the basis of a continuing role for the host organizations, MAB and CEARC, in integrating traditional knowledge and western science

Approximately 40 people attended the workshop and brought to the Issues and to the tasks a broad experience with traditional knowledge and with community-based efforts to develop local resources in a sustainable manner. They came from around the world, from Alaska, the Arctic and Costa Rica in the Americas, from the Sahel and Uganda in Africa, from Europe, Australia and Asia; they came from major metropolitan centres, from academic institutions and from community cooperatives. They brought with them a tremendous diversity of community and research experience. A full list of participants is appended to this report as Appendix A.

The meeting concentrated on sharing information and experiences, and on gaining a better understanding and appreciation of traditional knowledge, its foundations and structures, its history in indigenous societies and its transmission from one generation to another. In both plenary sessions and small working groups, participants worked collectively to develop a foundation of principles upon which governmental and non-governmental agencies could develop strategic plans for integrating traditional knowledge and western science.

This report, prepared by SP Research Associates of Regina, reflects the discussions that occurred and represents a synthesis of the two days of meetings. The section which follows presents some of the participants' experience with using traditional knowledge and integrating it with western science. It is followed, first, by an examination of the dominant themes brought to the workshop by the invitees and, second, by the vision, principles and recommendations developed by the working groups for the place of traditional knowledge in development and in community-based resource management initiatives.

Integrating the Two Systems of Knowledge

Throughout the workshop sessions, and in the printed materials distributed at the workshop by some participants, a great deal of project information was exchanged. At times the discussion focused upon finding within specific case examples, models for community development and for integrating knowledge bases which could be adopted and adapted by another community. At other times the discussion was intended purely to develop a fuller understanding of the differences and similarities of peoples around the world.

For example, one participant described how the Sarawak of Borneo, traditionally, employed a cooperative "work group" system for their agricultural activities. This enabled cultivators to work large tracts of land in a relatively brief period of time. Additionally it served as an important force for maintaining tribal solidarity. The nature of agriculture has now changed among the Sarawak with cash crops replacing subsistence agriculture as the mainstay of their economy. Yet the retention of the work group system has permitted these farmers to avoid becoming indebted in order to purchase non-traditional, mechanized farming equipment.

Another participant described how Island fishers in the South Pacific have responded to the lessening influence of village chieftains in ensuring resource conservation. As the traditional influence of these chiefs has diminished, fishers have confronted governments with a demand that they themselves remain responsible for ensuring sustainability and for controlling development and resource exploitation.

Another workshop participant described how western science has come to recognize the important medicinal properties of the plant life abundant in the Costa Rican forests. Indigenous people are assisting western scientists and western pharmaceutical companies to identify these plants and to collect them for the purposes of further testing and possible manufacture of medicines. Importantly both those who possess the traditional knowledge and the pharmaceutical companies are said to share a commitment to ensuring that the indigenous people of the region benefit equitably from the economic returns which may accrue from any development.

The workshop learned also of an initiative in Thailand, among the Akha people, to integrate the traditional knowledge possessed by elders in the mountain villages with the more "formal" education system favoured by the national government. Traditionally Akha knowledge has been transmitted through participation in daily life, through stories and through song. With the increasing appeal of the government's more "formal" system of education, an accommodation of the two systems, and of the two bodies of knowledge, was required if the Akha culture, history and value system were to be preserved.

The Akha Centre for Education and Culture incorporates in its school both the formal and the informal education systems, emphasizing equally literacy and culture, mathematics and

agriculture. An extension of this program brings the **Thal** language and the Akha culture not only to children during the day but to village adults during the evenings.

In Africa, SOS Sahel has developed and introduced innovative **educational programs** which incorporate the knowledge produced by western **science** with techniques and traditional approaches **effective** in and Indigenous to this most ecologically vulnerable of **regions**. **Drama** and **puppetry** are two important teaching and communication **techniques** used to **motivate and train farming families** to **work**, on a voluntary basis, to **rehabilitate their** lands. SOS Sahel and people from **30 villages** in the Sudan have now planted shelter belts to **slow the** encroachment of the desert and to **provide** regular **supplies** of **woodfuel** and fodder,

This development and aid organization has also completed an oral **history project** which has captured traditional **experience** and knowledge from some **500 men and women** in **8 countries**. The publication constitutes a unique collection of knowledge about **ecological** conditions, conservation, **agricultural practices**, traditional medicines and **social relationships**.

Another workshop **participant** described the **Innovative** efforts of the **Natural Resources Secretariat** of the Manitoba Keewatinow **Okimakanak (MKO)**, an **organization** representing some **25,000** Treaty Indians who are members of the **23 northern-most First Nations** in that province of Canada. The **Secretariat provides technical** support to the chiefs in their effort 'to develop the resources of northern Manitoba in a **sustainable** and balanced manner, respecting the culture and traditions of **aboriginal** people while ensuring the long-term potential of the **northern** resource base.'¹

One significant project of the Secretariat involves mapping **traditional land use patterns** of Indigenous **families** and communities, and **applying these** to forestry and **hydro-electric** development proposals. In this case, the MKO is treating the maps as the "private property" of the **communities**. It insists upon **remaining** in control of the **methodologies, the knowledge** and the very **design and administration** of the **environmental** assessment processes **central** to those economic developments.

Workshop Themes

Two particular themes dominated discussion at the workshop and proved to be common to **all the projects** regardless of whether **situated in** the arctic or the tropics, the desert or the rain forest. These themes came to constitute the foundation for the statements of vision and principles, and for the recommendations which **later** emerged.

The first of these themes related to the holistic nature of traditional knowledge and what this **means** in the **lives** of indigenous peoples. traditional **knowledge** was **said to** incorporate a very broad and **Inclusive world** view which remains **strong** and vibrant in many of these societies. Generally **speaking**, life is not perceived as **linear** and **compartmentalized** as it is in **white** western

society and Indeed *In* western science. Instead **It is perceived** as **Inter-generational, circular** and Interconnected.

This holistic and circular view **creates** bonds not only among **different** generations of people but between people and nature; for **example** between the **Inuit** of the eastern **arctic** **In** Canada and the **animals** they hunt, and **between the Karen** people at **Thailand** and **their** forests.

The **Implications of this** bond and of this **holistic world view** for **community-based resource management** are **significant**. Participants **In** the workshop **were certainly** frank about the **shortcomings** and **Inadequacies** of traditional knowledge. They acknowledged, for example, that Indigenous people have at **times** mismanaged resources, that western science has brought **benefits to indigenous** communities and **that** traditional customs have not always **been** adequate when there **is** competition among different peoples and different **communities** for **a single** resource.

Yet these **participants** also **emphasized** that

- **generally** those who possess traditional knowledge will not **themselves destroy a resource** **since it** is too much an **integral** part of **their very** being.
- **the world view of indigenous** people **requires** that consideration of projects, **as in the case of forestry** development **In** northern Manitoba, should proceed **In** a **holistic** fashion. One should not **consider the** economic or **physical results** of **development without considering** **equally** the **social** and spiritual **Implications**.
- **projects should** not seek to separate traditional knowledge, **traditional methodologies** and **those who possess** these from the management systems **In** place for resource development. The continued **Integration** of these **is** the only **way** of ensuring, **first**, that **the projects benefit those who** possess the traditional knowledge and, **second**, that the knowledge **is not** appropriated by those **not** **part of the community**.

The second **theme which** permeated the discussions **related** to the **lack of understanding In** western society of **the** strength and Importance of **traditional** knowledge. **Historically** dominant groups **within** society and **within** governments have subordinated traditional cultures. One of the **results is** that they **have failed** to study, **examine** and **recognize** the value of traditional knowledge.

Some **participants** at the workshop pointed out that **as** part of western **Institutions**, western science and scientists are not value-neutral but rather are Influenced by **their social** and **economic milieu**, by their cultural environment, by their gender and so on. **The** training of **scientists** does not always - or often - **give** them the **tools which are required** to appreciate **fully** the **strength, value** and wisdom of traditional knowledge. As a **result**, science and **scientists** too **often impose** approaches and structures which exclude traditional knowledge, which compromise

the viability of Indigenous cultures, and indeed which endanger the ecosystems upon which everyone depends.

This is part of the reason why, some argued, Indigenous people should share traditional knowledge only on their own terms and largely for their own benefit. Indigenous people, in other words, should exercise control over that which is theirs. "Ultimately the difference between poverty and prosperity [for Indigenous people] will in large measure be determined by the extent to which aboriginal people directly manage and control the nature, scale and type of development within our traditional lands."²

As part of the workshop's effort to explore fully the nature of traditional knowledge, a considerable portion of the discussions focused upon understanding the structure in place within that knowledge system. In part this was a matter of scientists, trained in western-oriented methodologies, looking to understand indigenous science in their own terms. In part it was an effort to create explanations of these traditional systems which could infiltrate and be both understood and appreciated by governing bodies,

Participants examined the taxonomy - the principles of classification - inherent in traditional cultures, language and society. There is, for example, clear logic in the Inuit words for different animals, birds and fish. The logic is different from that evident in western science but it is certainly valid in its own right; and it reflects the holistic world view of the Inuit. Their terms reflect the relationship between animals, and between those animals and the physical environment as opposed to classifying hierarchically according to evolutionary or genetic relatedness as is the approach in western science,

Fishers on the South Pacific Island of Palau had their own systems in place for observing and monitoring fish species and for introducing measures of conservation when necessary. These systems were certainly different from those dominant in western methodologies but at the same time were exceedingly effective. Similarly the so-called "Informal" education systems in place among Indigenous people are said to be structured along the same lines as the "formal" systems in place around the world. The Informal system has its own classroom, on the land or in the field; tasks are learned through repetition and are learned sequentially; and "classes" are organized often on the basis of age and gender,

The traditional systems have emerged through the generations and, participants emphasized, are effective for ensuring the sustainability of the resource and of the community. All in all, participants were suggesting that if the dominant western structures recognized the logic, strength and value of traditional knowledge, it would have significant positive implications for resource management. Such recognition:

- would imbue development with a strong conservation ethic and with a longer-term, more holistic perspective and approach.

- would give **scientists** new **methodologies** to employ **and** new **Insights** **Into** the environment **and** Its **Interconnections**.
- would ensure a fuller place for **Indigenous** people In resource **developments** which **affect** them.
- could contribute to ensuring that **Indigenous** people **share equitably** in the benefits of **resource** development, whether **from** the **timber** of northern **Manitoba** or from the **medicinal plants** abundant **in** the fain forests of Costa **Rica**.

However to benefit **fully** from the strengths of traditional knowledge, development **regimes** will **require** an openness to **new** approaches and to **new** **structures** of control, and **a preparedness** to **find** new, **Interdisciplinary** and cross-cultural **methodologies** which **Integrate** rather than **compartmentalize** knowledge, It **will require** **recognizing** traditional **knowledge** and using it on **its** own **terms**.

Vision, Principles and Recommendations

Workshop **participants** devoted themselves to sharing an appreciation of the **value** and Importance of **traditional** knowledge and of the nature and **society** of those peoples who possess this knowledge. **Participants** intended that this **appreciation** be conveyed to those **exercising** influence and **control** over resource management, In **MAB** and **CEARC** **certainly**, but as well In a much broader range of community, national and **International organizations**.

MAB and **CEARC**, **meanwhile**, had the specific **goal** of **developing a strategic plan** for their respective roles In integrating **traditional** knowledge **with** western **science**. That **entailed** **developing a vision** and a set of **principles** which could serve as a framework **for** those **Involved** In **resource** management and **in community** development And **it entailed** developing **concrete** recommendations **for action**.

Workshop **participants** were **divided into** four **working** groups each consisting of people from vastly **different** regions and backgrounds, Each group worked to develop a set **of suggestions** for **that statement** of **vision** and principles and for workshop recommendations to **MAB**, **CEARC** and **others**.

Working Group Reports

The following constitute **verbatim reports** from each of the **working** groups. It Is Important to present them In **their** entirety because to do so:

- Is **consistent** with the approach inherent in traditional knowledge;

- ensures that the range of Important and sometimes **very specific messages**, themes and suggestions that were **developed by the different** working groups are not lost in an attempt to **synthesize and** abbreviate;
- captures a **wide diversity** of themes and Ideas;
- **preserves** the context in which the various groups developed **their concrete** recommendations; and
- **captures** the very Important contribution which each group **made to the** workshop.

Group 1

• Participants:

Patrice **LeBlanc** (Facilitator)
Robert Johannes
Miriam MacDonald
Peter Green
Henry Lickers

Henry Chan
Michael **Anderson**
Gill Vogt

Vision Statement:

- To **recognize** the need **to sustain** Indigenous traditional **ecological** knowledge and **management** systems (**TEKMS**) as vital for **sharing, protecting** and enhancing **benefits from the world's environments.**

Principles:

Collaboration and cooperation between **science** and TEKMS.

Integration of TEKMS **at all** levels of **decision making.**

Legal **recognition** of TEKMS as an **Integral** part of addressing contemporary **resource** management problems.

Traditional ecological knowledge belongs to its people and Is shared with the rest of the **world** at **their discretion.**

Supporting the capacity within local communities to **maintain**, enhance and/or restore TEKMS, **TEK is valuable** and its owners **must be able** to share equitably in the benefits **derived** from Its **transmission** and use.

Recommendations:

General

- . Adopt the term "Traditional Knowledge and Management Systems" (TEKMS).
- . The results of this workshop should be presented as recommendations in a discussion paper.
- . The discussion paper should present a strategic plan for TEKMS.
- . The discussion paper should form the basis for consultations on the development of an action plan for TEKMS.
- . Link and take advantage of ongoing community, regional, national and international initiatives.

Education/Training

- . Introduce TEKMS in school curricula.
- . Introduce TEKMS in university/community college resource management programs.
- . Develop professional development training programs/modules for resource management.
- . Provide science training to aboriginal peoples.

Communications

- . Develop public information material about TEKMS.
- . Establish a network and directory of TEKMS expertise.
- . Develop a TEKMS newsletter.

Research

- . Promote collaborative research programs on TEKMS.
- . Establish guidelines and protocols for conducting TEKMS research studies including a code of ethics.
- . Establish a network of TEKMS researchers.
- . Promote good quality research on TEKMS by establishing peer-reviewed journals, convening symposia and conferences.
- . Promote research studies and programs into methods of incorporating TEKMS into development, project planning, assessment, implementation and evaluation.

Community

- . Involve indigenous peoples (elders, chiefs, community leaders, individuals) in the development of policy, legislation, action plans and strategies on TEKMS.
- . Provide facilities, resources and support within communities to maintain, catalogue and transmit TEKMS at the community level.

Institutional/Legal

- Investigate the relationship between traditional law and state law.
- Recognize the validity of traditional law on TEKMS in state law.

Political

- At the United Nations level, recognize the political implications of fully implementing a TEKMS strategy.
- At the United Nations level and all other levels, provide recognition of the severe loss of Indigenous cultures and knowledge and develop policies and strategies to halt the loss of TEKMS.

Process/Decision Making

- Develop new political processes that will enable obtaining necessary consent and consensus to implement and enhance TEKMS-science linkages,

Group 2**Participants:**

Nancy Doubleday (Facilitator)
 Kenneth Ruddle
 Lucassie Arragutainaq
 Luis Alvarez
 Friket Berkes

Hasan Poerbo
 Tim Beaulieu
 Tom Unka
 Martin Spigelman

Vision Statement:

- There exists a wealth of traditional knowledge within communities which forms the basis of their world view and must form the basis of their defining and controlling their own destinies.
- Individuals, governments and other agencies should support the efforts and strengthen the ability of communities and their institutions to achieve this end,

Principles:

- Action plans relating to traditional knowledge should include as building blocks:
 - mutual respect, trust and confidence.
 - a commitment to coordination of effort among communities, peoples and agencies toward that vision.

- **education and other information to share knowledge, to transmit knowledge and to build understandings.**

Recommendations:

Research/Community/Political

- **Develop a strategy for cross-cultural interpretation of concepts, ideas and world views.**
- **Involve and share powers with those possessing traditional knowledge at the outset of all projects.**
- **Undertake efforts with existing non-governmental organizations within communities as to the Importance and value of traditional knowledge,**
- **Create greater respect for traditional knowledge within community and other institutions.**
- **Undertake a greater number of case studies relative to traditional knowledge so that western scientists and policy makers can become more understanding.**
- **Develop an inventory of resources relating to traditional knowledge and prioritize effort, and protection, to those aspects which are most vulnerable.**
- **Provide greater support to community-based planners,**
- **Train people in approaches which bridge the methods of traditional knowledge and of western science; develop 'twinning' arrangements.**

Legal

- **Ensure equity in the distribution of benefits from the use of traditional knowledge through the regional, national and international development of moral and legal frameworks.**
- **Integrate the principle of equity into state law.**
- **Examine the incorporation of customary law, including traditional means of resolving conflict, into state law.**

Education/Information

- **Develop regional information and resource centres related to traditional knowledge.**
Recognize and support, perhaps through stipends and awards, elders, artists and gifted youth.
Incorporate traditional knowledge into the formal education system, in part by using elders to impart knowledge in universities and colleges.
Reinforce traditional knowledge in all forms and manners of education,
Respect traditional teaching methods.
Work to ensure that the formal education system meets the needs of Indigenous people and of the communities in which it is located.
Share knowledge and the methods of gathering knowledge,

Communications

- Create networks of people and **organizations** relative to **traditional** knowledge through computer links, newsletters and radio.
- Develop **videos** and other visual media relating to traditional knowledge.
- **Develop popular as well as** technical media; **utilize** fully **traditional** means of **communications** Including **drama**, song, folklore and puppetry.
- Develop **cross cultural and interdisciplinary skills linking** traditional knowledge and western **science**.
- **Build** support, knowledge and understanding for and of traditional knowledge **within urban**, non- Indigenous communities.

Group 3

Participants:

Donna Havinga (Facilitator)
Milton Freeman
Silarjan Bhattacharya
Prasert Trakamsuphakon
Richard Watts

Brian Flemming
Bob Rattan
Peggy Smith
Phillip Guy

Vision Statement:

- To **recognize** and respect traditional and Indigenous knowledge and values systems as we **move** towards **sustainable** and equitable living.
- To **ensure** the **meaningful participation** of communities in **their own** development **and decisions** that affect them and the global **environment**.

Principles:

- Resources are **not** Infinite and therefore need to be valued and protected.
- Unchecked **consumerism** Is not compatible with sustainable and equitable living.
- Communities must be Involved in defining the value of local resources and In **defining sustainability**.
- **Cooperation** towards conservation, preservation and restoration of **a** healthy environment **is essential**.

Recommendations:

Education/Research/Communications

- **Unesco should** support avenues through which Indigenous peoples and other Interested persons **can** document **TEK**. Existing documentation should be Investigated and catalogued.
- Appropriate methods for the storage and **dissemination** of TEK should be examined and **Identified**. **TEK** should be **integrated** with modern ecological knowledge and **with recognition** of **Indigenous** proprietary rights.
- **Unesco and other agencies** should promote incorporation of TEK Into the formal **education** system
- **Financial** and advisory support should be **given** to **Indigenous** groups' **community-based** education and research initiatives.
- National and international **agencies** promoting sustainable development should **incorporate TEK into their programs**, policies and implementation strategies.
- Unesco and other agencies should promote the value of **maintaining cultural diversity** along **with biological** and habitat diversity.

Institutional/Legal

- Unesco should **establish a** code of ethics **for the use of TEK**.
- Unesco should **consult** the World Council on Indigenous People **in formulating policies and** implementation strategies **for TEK**.
- Unesco and other agencies should invite representatives from indigenous **communities** to **join them**.
- Indigenous rights need to be **recognized in** national and **international** law. Customary land use **laws** should be **recognized** and validated.

Political/Management

- TEK, **as well** as the needs of local communities, should be **incorporated** into the planning process for development at local, regional, national and International **levels**.

- Unesco and **other** agencies, **including** Amnesty International, should offer their **services** to indigenous groups whose **sustainable** livelihoods and cultural adaptations **are** currently being disrupted by national and International developments.
- Obstacles and **barriers for the evolution** and incorporation of **TEK into decision-making** should **be continuously** examined and addressed.
- Unesco **should** establish **a working** group on **TEK** to implement and further **the initiatives identified** at **this** workshop.

Group 4

Participants:

- | | |
|-------------------------------|------------------|
| • Andre Lalonde (Facilitator) | Harvey Felt |
| Douglas Nakashima | Barry Verblowski |
| Nsang-O'Khan Kabwasa | Bella T'selele |
| Joelle Sanguya | Bob Woffe |

Vision Statement:

- Traditional **Ecological Knowledge (TEK)** Is developing **in** a world of competing and unequal **visions** and **beliefs**. Therefore, **there is a multiplicity** of goals of the people who want to develop **and use** **TEK**. We see **TEK as playing** a critical **role** in the **pursuit of the** following **goals** and **principles**.

Goals

1. **The transmission** of knowledge between generations.
2. Continue **traditional** ways of **life** and use of resources,
3. Bringing **traditional** knowledge into **the** formal education system,
4. Indigenous **self-determination** and self-government
5. Conservation, proper use and *proper* management of lands and resources.
6. **Protecting/developing indigenous language** and knowledge.
7. Shaping the direction of development to be proper, **sustainable**, not **destructive**.
8. Protecting/developing **indigenous** science.

Principles:

- Each society should **recognize** the **validity of** traditional knowledge and **practice** in the past, current **and** future **life** of society.
- **It is a** basic **right** that each Indigenous group can choose to continue **their distinct, traditional way** of life, **or to change** these as they wish.
- **Institutional** support and resources should be provided to **maintain** the continuation of **traditional** knowledge and **ways of life**.
- **There is** an Inherent right of **Indigenous** groups to self-government, **self-determination**, and management of their **lives, lands, water** and other **resources**.
- Where **different** groups compete, co-management of resources may best **bring** about good relations and management systems, where co-management is between equal **partners**.
- **Both** formal and **traditional** education **systems** are **necessary**. Formal education systems should adapt to, incorporate **and** give credit to traditional knowledge and **practice**. **This includes** Indigenous language, Indigenous science and **TEK**.
- The best **economic** development **is** shaped by traditional knowledge, to be **sustainable** and less **destructive** to land-people relationships.
- The **spiritual** dimensions of **TEK** should be **recognized** and maintained.

Recommendations:

Definition of Terms

- Self-management is the de facto or preferred method of resource management: **It should be the first** means used to **solve** local management issues and **problems**.
- Cooperative management and co-management • co-management **should** be used only when there is a conflict over resource use (e.g. competition **for resources, migratory species**)

Communications/Media

- Role of **journalists** in covering **TEKMS** issues.
- Role of lobbying/activist groups and **NGOs**.
- Role of **environmental role** models.
- Inventory of media (**bibliographic materials**).
- Role of **TEKMS** networking (using existing newsletters to reduce **duplication** of efforts).

Education/Research

- Endowment of university (**co-**)**chair for** Indigenous persons to teach **TEKMS**.
- **Local** community control of curricula and **local hiring**.
- Education credits for **TEKMS** field **training**.
- **Flexible school** year to **allow for** seasonal **cultural** ritual (e.g. goose hunt **breaks**).
- **Make** available translated books, **etc.**, **for local** schools.

- **Documentation and research of TEKMS for elders as keepers and users of TEKMS (CEARC role).**

Role of U.N. & Specialized Agencies as Promoters and Educators of TEKMS

- Development of brief, descriptive booklets in various languages (animation) for local schools (UNESCO),
- Technical 'how to' books/tapes/films on elder transmission of TEKMS for schools, etc. (UNESCO),
- **Concerted roles/liaison** activities for ecological conservation.
- **U.N. organizations** (e.g. UNDP/FAO etc.) could encourage member states and affiliated organizations to include activities on TEKMS, for example funding sources for research development, funding for training programs for TEKMS, and creating national and international TEKMS networks.

Multilateral/Development Agencies

- Support national and international policies and programming including TEKMS under sustainable development and Women In Development priorities.
- **Support to NGOs** which work with indigenous people and TEKMS.
- have built-in evaluation measures to help maintain accountability and use lessons learned.

Plenary Report

Returning to the plenary sessions, many participants were very concerned about attempting to generalize from or to integrate the work of the four groups. They did not wish their specific interests, experiences, concerns and emphasis lost in such an effort. It is clear, however, that their statements of vision and principles coalesced around a number of key concepts:

- the Inherent right of indigenous people to self-determination, to self-reliance and to self-government
- the inherent need for sustainable development and for a life style consistent with the Concept of sustainability;
- the value, strength and vitality of traditional knowledge and its importance to indigenous peoples, to society as a whole and to the goal of achieving integrated living systems.
- the obligation of individuals, agencies and governments - at every level - to respect traditional knowledge and to provide the means necessary for its preservation, Strengthening and transmission.

- the need for mutual **respect**, trust and confidence among **different** peoples **and societies**; and the need for resource management regimes **to be structured so as to ensure cooperation and coordination between these different but equal societies.**
- the need to redress the **presently asymmetrical** relationship between **traditional** knowledge and western **science**; and the need to **establish in all** resource management **regimes a relationship** of equality between the two forms of knowledge and between those who **possess** and use each form of knowledge.
- **the** need to ensure that Indigenous people themselves remain **in** control of their **traditional** knowledge and benefit fully from its use.

These concepts **were intended** to provide local, national and International **agencies** with a foundation upon which they could **build**. They were Intended to serve as a framework for the use of **traditional** knowledge in cooperation with *western science* and as **a** means of **equalizing** the power **possessed** by each.

The workshop, **in plenary** session, then used these considerations **to develop** and reach a consensus on **the means of achieving** and Implementing these concepts; the **"how to"** In other words. The workshop's recommendations for **action were organized** on the **basis** of seven categories with a **view** to both **short** and **long-term** undertakings. They are presented **here verbatim**.

Decision Making:

- **There** should be adequate representation of indigenous peoples, and the **traditional** knowledge they carry, **in all** agencies of government **and in international organizations** such as UNESCO.
- **Existing** and new political processes should work to **recognize** and enhance the **linkages** between **traditional** knowledge and western science.

Education and Training:

- **Formal** education systems should **be** reformed In order to: (1) meet the needs of **indigenous** people; (2) **incorporate** **traditional knowledge** into their curricula; and (3) employ **traditional** means of Imparting knowledge,
- **Education** should be used to build support **for** and an understanding of **traditional** knowledge **within** urban, **non-** indigenous communities,

Communication:

- . Develop a network and means of communication among those committed to **the visions and principles enunciated** by **this** workshop concerning **sustainable** development and **traditional** knowledge.

Communities:

- . **Involve** Indigenous peoples and their communities In planning and developing **policies, strategies, action plans, legislation** and all other **matters relating to traditional** knowledge and its **management systems**.
- . New structures **should** be developed at the local, national and **International levels** to accommodate the **values** and practices of indigenous peoples.
- . There should be support **given** to activities designed to strengthen the **ability of communities** to plan **their own development**.

Research:

- . **Develop an** Inventory of resources relating to **traditional** knowledge and management systems and **prioritize** protection for those which are most vulnerable,
- . **Provide** funding for collaborative research based upon a code **of** ethics which ensures **full Indigenous involvement** from the very outset of projects.
- . **Target** research to the documentation of **traditional** knowledge and **management systems**.

Institutional and Legal:

- . **Provide** full legal and institutional recognition of indigenous rights, **traditional** knowledge and customary land use laws.
- . Work **to ensure** that legal frameworks are equitable, are open to traditional knowledge and are capable of embodying a code of ethics consistent with the **values** of **Indigenous** people.

Political:

- . **Recognize** and work to accommodate the **political implications** of managing **resources** on the **basis of traditional knowledge** and management systems.

Conclusions

In part), ways the International Workshop on Indigenous Knowledge and Community-Based Resource Management achieved its objectives through its two days of meetings. Participants shared their knowledge, analyzed and compared their experiences and thereby expanded their understandings of the relationship between traditional knowledge and western science. The workshop - and its smaller working groups - developed a compelling vision and a strong foundation of principles and recommendations upon which MAB, CEARC and, indeed, other organizations and agencies can build their own strategic plans.

From these can emerge environmental assessment and resource management regimes fully committed to the principle of sustainable development attained by incorporating knowledge acquired from both traditional and western scientific sources,

The participants' work made clear, however, that this achievement can occur only when indigenous peoples around the world, with their vast store of traditional knowledge and different ways of creating knowledge, are exercising fully the powers and rights which are inherently theirs. Participants clearly believed that the ultimate goal should be one of equality among peoples, cultures and knowledge systems. Integration of one base of knowledge with another can too easily become the appropriation of that knowledge, and its knowledge systems, by another when the societies in which they exist are not equal,

The fundamental need, in other words, is for indigenous people to exercise their right of self-determination and to define, for themselves, the nature and the extent of their involvement in resource development and resource management. With this foundation in place, there can then be a fuller integration of knowledge and world views in developing resources in a sustainable manner and in a way which respects and offers equal benefits to all the people affected,

Equalizing the power relationship between cultures - whether in the north of Canada or the villages of India - is by no means an easy task. Here again, however, the conclusions which can be drawn from the workshop are clear. Participants have a responsibility to nurture a greater understanding and appreciation of indigenous cultures and traditional knowledge within the larger society and within the governmental and other organizations of that larger society.

Given these conclusions, there are important roles which MAB and CEARC can play. Certainly MAB can entrench in all its endeavours the elements - the respect and the equality - recommended by participants. In doing so it can become a model of institutional commitment to sustainable development.

MAB and the Canadian Commission for UNESCO can **also take** on a role consistent with its global mandate. It can assist Indigenous communities collect and document **the vast** store of **knowledge which** exists. It can provide Indigenous communities **with** the means and the vehicles to share **their** knowledge, on **their own** terms. It can foster an understanding of **traditional** knowledge in the larger world **community** and a linking of those people **and organizations**, around the world, **committed to the** visions enunciated by **this** workshop. And **it can** advocate, in **a** **multitude** of **national** and International **organizations**, on behalf of greater **understanding** and on behalf of **an equitable** world **view**.

Within the more **narrow** Canadian context, **CEARC** too can entrench the **principles** and vision developed by **this** workshop. In all **its** endeavours and by so doing, also become a model of **institutional** commitment to sustainable development. **Clearly environmental** assessment **processes** and the **organizational** structures for such processes are critical for **determining** the nature and extent of resource development **CEARC** can advocate for and perhaps establish **structures** and processes which respect fully the **principles** developed by **this** workshop.

Furthermore **CEARC** can **provide** indigenous communities, those **who possess** traditional knowledge, with the means necessary **for strengthening** and perpetuating **their** knowledge base. Abundant **benefits** would flow to society as a whole.

As one **participant** noted, the **workshop** brought together **"good minds"** and **people** of good **will**. **Together** and **collectively**, they generated a vision, **a set of principles** and **a** host of both **specific** and **general** recommendations. These **"good minds"** **will carry the** messages **"home"** and each **can** work, in his **or** her own way, to create a **future in** which the resources of the world are used. In **an equitable** manner with the **ultimate** goal being sustainable **and** integrated **living** systems,

Footnotes

1. MKO, Natural Resources Secretariat Report, November 1990, Vol.1 No.4, p.3.
2. Chief Robert Wavey, Fox Lake First Nation, Presentation to the International Conference on Indigenous Knowledge and Community-Based Resource Management, September 24, 1991, p.8.

Appendix A

Workshop Participants

Luis J. Poveda Alvarez
Museo Nacional de Costa Rica
Herbario Nacional
Department de Historia Natural
Apdo. 749-1000
San Jose, Costa Rica
Tel: 011-506-21-4429
Fax: 011-506-33-7247

Michael Anderson
Research Director
Natural Resources Secretariat
Manitoba Keewatinowi Okimakanak
Thompson, Manitoba
Canada R8N 0N6
Tel: (204) 778-4431
Fax: (204) 778-7655

Lucasle Arragutalnaq
Secretary Treasurer
Sanikiluaq Hunters and Trappers
Association
Sanikiluaq, N.W.T.
Canada X0A 0W0
Tel: (819) 266-8874
Fax: (819) 266-8903

Fikret Berkes, Director
Natural Resources Institute
University of Manitoba
177 Dysart Road
Winnipeg, Manitoba
Canada R3T 2N2
Tel: (204) 474-8373
Fax: (204) 261-0038

Siljanjan Bhattacharyya
Centre for Ecological Studies
Indian Institute of Science
Bangalore 560-012
India
Tel: (812) 340-985/344-411

Henry Chan Chok Khuang
institute for Advanced Studies
University of Malaya
69146 Kuala Lumpur
Malaysia

Ken de la Barre
Canadian Circumpolar Institute
650-32nd Ave.
Suite 404
Lachine, Quebec
Canada H8T 1Y4
Tel: (514) 637-3771
Fax (514) 637-3146

Nancy Doubleday
Canadian Environmental
Assessment Research Council
141 Aylmer Ave.
Ottawa, Ontario
Canada K1S 2Y1
Tel: (613) 233-9596

Appendix A

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Harvey Felt
 Dept. of Anthropology
McMaster University
 1280 Main St. W.
 Hamilton, Ontario
 Canada L8S 4L9
 Tel: (416) 525-9140/3904
 Fax: (416) 527-0100

Brian Flemming
Municipality of Sanikiluaq
 Box 61
Sanikiluaq, NWT
 Canada XOA 0W0
 Tel: (819) 266- 8866
 Fax: (819) 266-8903

Milton Freeman
Canadian Circumpolar Institute
 Dept. of Anthropology
 1315 H M Tory Bldg.
University of Alberta
 Edmonton, Alberta
 Canada T6G 2H4
 Tel:(403)492-4682
 Fax: (403)492- 1153

Peter Green
Paulatuk, NWT
 Canada XOE 1N0
 Tel: (403) 580-3601
 Fax: (403) 580-3404

Phillip Guy
Association of Village Council
 Presidents
Village of Kwethluk
 P.O. Box 219
Bethel, Alaska
 99559
 Tel: (907) 543-3521
 Fax: (907) 543-3596

Donna Havinga
Project Administrator
University Consortium on the
Environment Project
 Faculty of Environmental
Studies
York University
4700 Keele St.
North York, Ontario
 Canada M3J 1P3
 Tel: (416) 736-5700
 Fax: (416) 736-5679

R. E. (Bob) Johannes
Senior Principal Research Scientist
Commonwealth Scientific and
Industrial Research Organization
Division of Fisheries
Hobart 7001
Tasmania, Australia
Tel: 011-61-02-206-201
Fax: 011-61-02-240-530

Nsang-O'Khan Kabwasa
Programme Specialist
Division of Population and
Human Settlements
UNESCO
7, Place de Fontenoy
75700 Paris
Tel: 33-1-4568-3740
Fax: 33-1-4065-9871

Andre Lalonde
Environmental Consultant
R.R. #3
Wakefield, Quebec
J0X 3G0
Tel: (819) 459-3591
Fax: (819) 459-3237

Henry Lickers
Mohawk Council of Akwesasne
Director, Environment
P.O. Box 579
Cornwall, Ontario
Canada K6H 5G3
Tel: (613) 575-2377
Fax: (613) 575-2181

Miriam MacDonald
Municipality of Sanikiluaq
Box 51
Sanikiluaq, NWT
Canada X0A 0W0
Tel: (819) 266-8866
Fax: (819) 266-8903

Joyce Mungherera
National General Secretary
World YWCA
YWCA of Uganda
Kampala, Uganda
Tel: 041-256-242024
Fax: 041-256-241519

Douglas Nakashima
NSERC Postdoctoral Fellow
Laboratoire d'Ethnobiologie-
Biogeographie
Musee National d'Histoire Naturelle
57, rue Cuvier
75231 Paris
France
Fax: 33-1-4079-3484

Hasan Poerbo
visiting Professor
Faculty of Environmental
Studies
York University
4700 Keele St
North York, Ontario
Canada M3J 1P3
Tel: (416) 736-5252
Fax: (416) 736-5679

Evelyn Pinkerton
School of Community and Regional
Planning
University of British Columbia
6333 Memorial Road
Vancouver, B.C.
Canada V6T 1 W5
Tel: (604) 822-2824
Fax: (604) 822-3787

Kenneth Ruddle
Centre for Development Studies
University of Bergen
Bergen, Norway
Tel: 01 1-47-5-21 -3305
Fax: 011-47-S-32-2686

Robert Rutlan
R.R. #1
Vimy, Alberta
Canada TOE 1J0
Tel: (403) 961-4050

Joelle Sanguya
Clyde River, N.W.T.
Canada XOA 0E0
Tel: (819) 924-6394
Fax: (819) 924-6247

Peggy Smith
KBM Forest Consultants
360 Mooney St.
Thunder Bay, Ontario
Canada P7B 5R4
Tel: (807) 344-0811
Fax: (807) 345-3440

Prasert Trakamsuphakon
Highland Research Institute
MPCDE Foundation
137/1 Nantharam Road
Chiang Mai 5000
Thailand
Tel: 011-66-53-27-6194
Fax: 011-66-53-27-4947

Bella T'selele
c/o Dept. of Renewable Resources
Fort Good Hope, N.W.T.
Canada
Tel: (403) 920-6118

John Turner
Mushkegowuk Council
Box 370
Moose Factory, Ontario
Canada POL 1W0
Tel: (705) 658-4222
Fax: (705) 658-4250

Tom Unka
Fort Resolution, N.W.T.
Canada XOE 0M0
Tel: (403) 394-4190/3401
Fax: (403) 394-4120

Barry Verbiwski
Wildlife Branch
Department of Natural Resources
Box 24, 1495 St. James St.
Winnipeg, Manitoba
Canada R3H 0W9
Tel: (204) 945-7751

Gill Vogt
Senior Extension Coordinator
 Nature Forest Management Project
 SOS Sahel
 c/o **1 Tolpuddle Street**
 London, England
N1 0XT
 Tel: **71-837-9129**
 Fax: **71-837-0856**

Workshop Organizers

Jim Bourque, Chair
Department of Renewable Resources
 Government of the Northwest Territories
6th Floor, Scotia Centre
Yellowknife, NWT
 Canada **X1A 2L9**
 Tel: (463) **920-3228**
 Fax: (403) **873-0114**

Patrice Lablanc
Canadian Environmental
Assessment Research Council
Immeuble Fontaine
200, boul. Sacre-Coeur
Hull, Quebec
 Canada **K1A 0H3**
 Tel: (819) **997-2253**
 Fax: (819) **953-2534**

Julian Inglis
Professional Services Group
Canadian Museum of Nature
P.O. Box 3443, Station D
Ottawa, Ontario
 Canada **K1P 6P4**
 Tel: (613) **943-2389**
 Fax: (613) **952-9683**

Terrance Cooke
Canadian Commission for
UNESCO/MAB
P.O. Box 1047
99 Metcalfe St
Ottawa, Ontario
 Canada **K1P 6V8**
 Tel: (613) **598-4330**
 Fax: (613) **598-4405**

Heather Myers
Regional Planning Division
 Dept. of Renewable Resources
 Government of the NWT
 6th Floor, Scotia Centre
 Yellowknife, NWT
 Canada **X1A 2L9**
 Tel: (403) **920-6122**
 Fax: (403) **873-0114**

Patricia Reichert
SP Research Associates
2144 Cornwall St.
Regina, Saskatchewan
 Canada **S4P 2K7**
 Tel: (306) **359-1650**
 Fax: (306) **522-2868**

Appendix A

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Martin Spigelman
SP Research Associates
 2144 Cornwall St
 Regina, Saskatchewan
 Canada S4P 2K7
Tel: (306) 359-1650
Fax: (306) 522-2868

Susan Washington
Western Environmental and
Social Trends Inc.
 Ste. 501, Canada Life Tower
 736 6th Ave. SW
 Calgary, Alberta
 Canada T2P 0T7
Tel: (403) 262-8966
Fax: (403) 265-8139