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**Traditional Knowledge: Resisting and  
Adapting to Globalisation**

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## **TRADITIONAL KNOWLEDGE Resisting and adapting to globalisation**

Paper prepared for the UNCTAD Expert Meeting on  
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Science is but one system of knowledge amongst many. Other knowledge systems, embedded in a wide array of cultures and sustaining a broad spectrum of ways-of-life, constitute a rich and diverse intellectual heritage that is attracting increasing attention worldwide. Often referred to as *traditional ecological knowledge* or alternatively *indigenous or local knowledge*, these "other systems" are the sophisticated sets of information, understandings and interpretations that guide human societies around the globe in their innumerable interactions with the natural milieu: agriculture and animal husbandry; hunting, fishing and gathering; struggles against disease and injury; naming and explanation of natural phenomena; and strategies to cope with fluctuating environments. This fine-grained interplay between societies and environments provides traditional knowledge systems with their diverse structures and content, their complexity, versatility and pragmatism, and their distinct, internal logic anchored in specific worldviews.

From the viewpoint of science and technology, these systems of traditional knowledge hold considerable promise. For the pharmaceutical industry, traditional health practitioners facilitate the search for new bioactive ingredients by providing privileged information about their selective use of biodiversity. Similarly, the numerous crop varieties developed and sustained by generations of small-scale farmers offer a genetic pool of considerable interest to biotechnologists, including those of the agro-chemical industry. In the environmental domain, resource users have constructed sophisticated understandings of local ecosystem function, and their direct involvement in the management process is now seen as the *sine qua non* of successful biodiversity conservation.

So after decades of grudging acknowledgement, indigenous knowledge has now become, at least in certain circles, "fashionable". The resulting bandwagon effect has led to an increasingly common abuse of terms. In the development and resource management milieu, one now encounters the terms 'traditional or indigenous knowledge' loosely applied to a wide array of activities, many of which do not give any serious consideration to the knowledge possessed by local community members. Nevertheless, by applying the buzzword of the moment, these actions benefit from the aura currently surrounding the concept of 'traditional/indigenous knowledge'.

### **Interactions between science and traditional knowledge ... a little history**

But it is no simple matter to shift from the mere use (or abuse) of the term to the actual articulation of scientific and traditional knowledge. To appreciate some of the major hurdles ahead, we can benefit from a brief look to the past, for the dialogue between Western scientists and traditional knowledge holders has an extensive history.

In the colonial period, when Europe was 'discovering' the world, the disciplines of ethnobotany and ethnozoology were established to grapple with the sudden influx of biological information from 'exotic' corners of the world. These disciplines grew by leaps and bounds, bolstered by substantial inputs of traditional knowledge. Their primary mission, however, was not to understand these other knowledge systems *per se*, but rather to glean from them useful information for the further development of colonial science. Efforts focused on compiling lists of novel plants and animals that were 'useful' to local populations and consequently, thought to be of potential utility 'back home'.

But colonial scientists did not limit their reliance on local experts to the simple identification of species of interest. They actually adopted from their traditional knowledge counterparts entire classification schemes that order and interpret these ecological systems according to an indigenous logic. In this manner, Western taxonomic knowledge and practice were significantly transformed by their encounter with traditional systems of knowledge and meaning. European understandings of Asian botany, for example, " ironically, depended upon a set of diagnostic and classificatory practices, which though represented as Western science, had been derived from earlier

codifications of indigenous knowledge” (Ellen and Harris 1999: 182). Throughout the colonial period, Western scientific understandings expanded through the appropriation of traditional ecological knowledge, with little acknowledgment of the intellectual origins of their borrowed 'discoveries'.

Has the situation changed today? Certainly the colonial attitude lives on as the surreptitious appropriation of traditional knowledge for commercial ends. At the same time, efforts are being made to move towards new relationships between science and traditional knowledge, based upon partnership, exchange and mutual benefit. While the goals may be laudable they remain difficult to achieve and the way forward, even when accompanied by the best of intentions, is fraught with pitfalls.

### **Intellectual Property and Traditional Knowledge**

The need for appropriate systems of protection for traditional knowledge is now widely recognized. Existing arrangements for protecting intellectual property rights (IPR) seemed in the first instance to offer a logical solution. Patent and copyright laws, however, have evolved within very particular socio-economic and political contexts. They are designed to protect individuals whose specific ‘inventions’ require safeguarding in view of their perceived market value. Can such arrangements accommodate traditional knowledge, which is collectively owned, whose ‘invention’ extends across several generations, and whose intent is to provide ecological understanding and social meaning, and not commercial profitability?

Given these inherent incompatibilities, the application of conventional IPRs may have impacts quite other than those intended. By protecting select elements in isolation from the larger cultural context, IPRs encourage fragmentation and atomisation of the cultural system. By designating knowledge ‘owners’, they may trigger social dissension between those recognised as proprietors and other community members that are excluded. And finally, as conventional IPRs serve to protect knowledge by setting the rules for their commercial exploitation, they in fact deliver up local knowledge to the global market place.

In short, existing IPR arrangements are culturally inappropriate for protecting traditional knowledge systems. Today efforts are turning towards the considerably more challenging task of defining completely new or *sui generis* systems for protection. There is much difficult groundwork required before we can begin to speculate as to what such systems might encompass, how they might operate and whether or not they might provide culturally appropriate solutions.

### **The challenge of articulating science and traditional knowledge**

Just as existing IPR systems jeopardize rather than facilitate traditional knowledge preservation, the integration of traditional knowledge into scientific frameworks may pose similar problems. Unlike for IPRs, however, the potential negative impacts of science on traditional knowledge systems are as yet little appreciated

From the scientific viewpoint, traditional knowledge is first and foremost a resource. During past decades, many scientists have expressed their appreciation of the wealth of useful information embedded in traditional knowledge and recognized the utility of integrating scientific and traditional knowledge. Integration into science, however, requires the extraction of relevant knowledge through a process of scientific validation, in order to separate the 'useful' from the 'useless', the objective from the subjective, the indigenous science from indigenous belief. One cannot help but see the parallels between this contemporary 'mining' of traditional knowledge for information 'useful' to Science, and similar activities during the colonial period.

While this process may be profitable to science, for traditional knowledge systems the end result is once more dismemberment and fragmentation. Even scientists with the best of intentions may end up accelerating the demise of these other systems of knowledge, by valorising those components that most resemble scientific information and implicitly casting dispersions on other elements that scientists consider to be of the realm of superstition and belief. The end result is the accelerated replacement of the traditional systems with the scientific system.

### **Towards a more equitable relationship**

Whereas we began this article with the topic of science, our discussion of traditional knowledge leads us to conclude with culture. For the challenges as yet to be resolved, whether they relate to standards for traditional knowledge protection, or equitable means to articulate traditional knowledge and science, are fundamentally cultural.

For scientists, culture tends to be viewed as a foreign quantity whose consideration falls outside the bounds of their profession. Certainly they would agree to link the cultural factor with the indigenous component of the equation. For our considerations here, however, it is the culture of Science that is of particular relevance. To briefly illustrate this point, consider two fundamental cultural constructions that have provided science with its very foundations, and which remain today an everyday reality of scientific thought and practice. These include: the conceptual separation/opposition of Nature (environment) and Culture (society); and the differentiation of rationality from spirituality, the empirical (science) versus the symbolic (religion). These tenets are such an integral a part of the scientific world view (epistemology), that scientists are not aware of them as specific cultural interpretations of the world. For them, they simply represent 'Reality'. Scientific reality, however, distinctly differs from that lived by traditional knowledge holders whose shared conception of the world encompasses pathways between natural and societal realms, and where spirituality infuses everyday objects and everyday acts.

In other words, there are no reliable bases for judging one worldview to be a superior reference point for 'reality' then the other. We can of course arbitrarily choose. Given science's institutional power in mainstream society, it is not surprising that the 'objective and rational' scientific method is repeatedly called upon to judge 'other knowledge systems' (Agrawal 1999). But it is important to recognise that this is a societal choice, not one defensible from any neutral or a-cultural perspective. Consequently, the encounter between scientific and traditional knowledge must be apprehended as a meeting of cultures, with the cultural component as prominent in one camp as the other.

Full appreciation of this perspective, changes our approach in articulating scientific and traditional knowledge systems (a more appropriate term than ‘integration’). Greater emphasis must be placed on levelling the playing field and appreciating traditional knowledge not as sets of information but as integral components of other living and dynamic societies and cultures. Traditional knowledge conservation therefore must pass through the pathways of conserving language (as language is an essential tool for culturally-appropriate encoding of knowledge); ensuring knowledge transmission; strengthening the control of traditional societies over the processes of change that affect them; and conservation and continued access to the environments upon which their way-of-life depends.

It is in this spirit that UNESCO, as a contribution to commitments made at the World Conference on Science in Budapest (1999), is in the process of developing an intersectoral programme drawing together its sectors of Natural Science, Social and Human Science, Culture, Education and Communication

#### **A new impetus for UNESCO action on traditional knowledge**

Traditional knowledge and management are not new themes for UNESCO. Early initiatives in the 1970s and 80s addressed traditional agro-piscicultural systems in Mexico through the Man and the Biosphere programme, and traditional marine resource management in the Pacific Basin through the Coastal Marine Programme. At the 1992 United Nations Conference on Environment and Development, clear reference was made to traditional knowledge in the Rio Declaration and Agenda 21. As well, the ‘knowledge, innovations and practices of indigenous and local communities’ are at the focus of Article 8 (j) of the Convention on Biodiversity, and this article continues to provide an important stimulus for international debate today.

Recently, traditional knowledge has re-emerged as a priority concern for several of UNESCO’s sectors. The issue received strong support at the World Conference on Science, held in Budapest in June/July 1999, where a special thematic session was organised on “Science and Other Systems of Knowledge”. A number of important recommendations concerning traditional knowledge systems were approved by the over 150 countries participating in this world event co-organized by UNESCO and the

International Council for Science (ICSU). Several UNESCO Member States also brought traditional knowledge to the fore at the Organization's last General Conference (October 1999, Paris). There, the Natural Sciences and the Social & Human Sciences Commission decided that an intersectoral project on traditional knowledge should be proposed for inclusion in the next medium term strategy (2002-07).

In the Sector for Culture, strong interest in traditional knowledge has been voiced through the priority given to 'intangible cultural heritage', and in particular, the calls to establish an international normative instrument in this domain. In addition, the issues of 'cultural rights' and of indigenous peoples, in particular in the context of the on-going Decade for Indigenous Peoples, are also of great significance for UNESCO and have a clear relationship to the traditional knowledge area.

Given these converging priorities relating to traditional knowledge, UNESCO is currently elaborating a proposal for integrated action in this key area involving its sectors for Natural Sciences, Social & Human Sciences, Culture, Education and Communications.