

# Contributions of Traditional Ecological Knowledge to Conservation Strategies: The Impact of Cultural Context, Spiritual Frameworks and Educational Systems

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## Introduction

This study considered whether it is possible for Traditional Ecological Knowledge (TEK) to be removed from its traditional spiritual structure to be integrated with western science and management systems. Furthermore, it asks the question *should* TEK's spiritual framework be disengaged for this purpose?

TEK is defined as "a cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment" (Berkes, 1999, p. 7).

## TEK and Cultural Embeddedness

TEK is embedded in its culture of origin. Therefore it is critical for western science to recognize and respect this fact, particularly if there is an expectation of the successful integration of these two scientific methods. Western science must understand that TEK is founded upon interconnected relationships and a history of contextualized but adaptable knowledge arising from experienced interactions of a people with their local environment. TEK exists at the intersection of the domains of human culture, indigenous education, spiritual tradition and the natural world (Figure 1). Western science must also acknowledge the intrinsic transformation of TEK when it is removed from the context of its culture.

## Indigenous Education Systems

Indigenous education encompasses many different methods of both gaining the necessary wisdom and of transmitting knowledge. These methods range from the day-to-day activities of life, learning by doing, interactions with other community members, and direct learning from elders, to storytelling and learning of ecological concepts in place. "Living and learning were fully integrated" (Cajete, 1999b, p.74) within indigenous cultures and education systems. The foundation of this education system is relationships between all community members, human and non-human, and the local sacred environment.

## TEK and its Spiritual Framework

There exists in all people a memory of wildness, a connection to the natural world and our place within the larger community of life (Whiteman, 2004). The modern era has defined humanity by a culture that is increasingly separated and alienated from the natural world, with western science being at the forefront of this disconnect. The relationship of modern western cultures with the environment is an affiliation established on exploitation of resources, domination of nature, large scale development and at its core a belief that humans are the superior life form, the end and pinnacle of evolution. The connection that many indigenous cultures have with their local environments is based upon a relationship of harmony with life and spirit, minimal ecological impacts, reciprocity with other life forms and respect for the deep interconnectedness of all life (Mander, 1991). It is critical that a pathway be discovered to bring these dichotomous views together. Discovering a path between TEK and western science may be a first step in this endeavour. The western scientific structure and the spirit and local wisdom of TEK ought to be brought together "to interact in a complementary fashion" (Hobson, 1992, p. 1). It is essential for modern western science "to find a new story, a new sense of the universe, to take human kind into the 21<sup>st</sup> century" (Egri, 1997, p.408).

## TEK and Conservation Strategies

The worldview of interconnectedness and harmony of community has important implications for the ethical and political concepts of many indigenous groups. In particular, these impacts are reflected deeply in the divides between the western ethical and political paradigm, which is centred on the human and the individual. In contrast, the ethics of indigenous peoples tend to be more holistically community-centred, comprised of land, animals and plants (Pierotti, 2000).

The current paradigm of western science and culture is one of disconnect and rationality and it has resulted in a planet in crisis from overexploitation, neglect and indifference. TEK has much to offer in the development of improved conservation strategies. However, when TEK is integrated into western science, it is likely to become disconnected from its culture and people, causing the knowledge to be incomplete (Figure 2). A new philosophy which integrates western science, TEK and spirit may well be the first step in a new paradigm for humans, nature and spirit (Figure 3). In this new paradigm each system would learn from the other in an equitable, respectful and empowered dialogue producing an integrative process which evolves, adapts and develops collectively. The reductionist learning of western science can merge with the over-arching, framework of regionally focused TEK to produce a new knowledge for a new worldview.

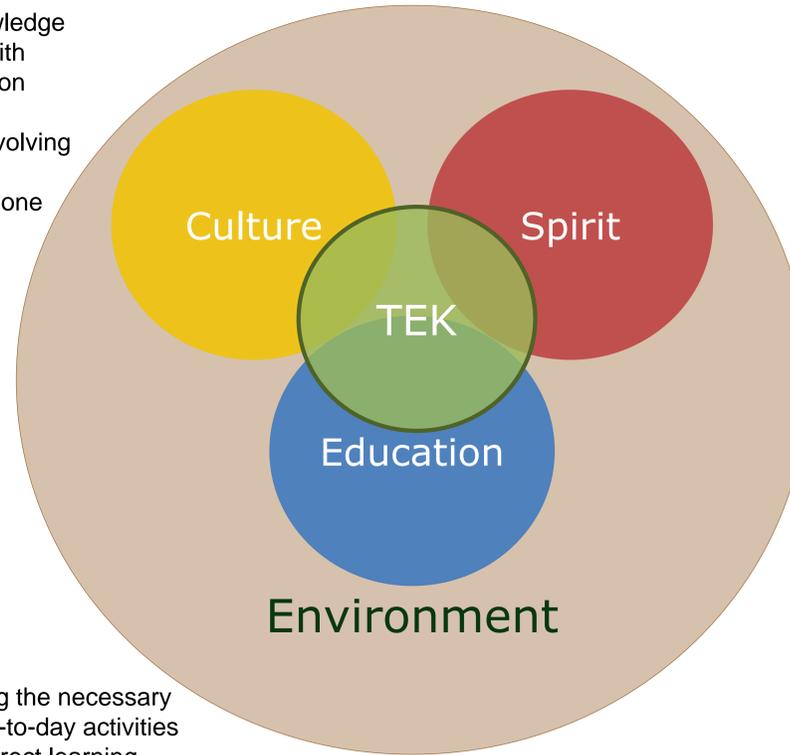


Figure 1: Structure of TEK

... all life must seek  
a balance within  
the greater community  
of life ...

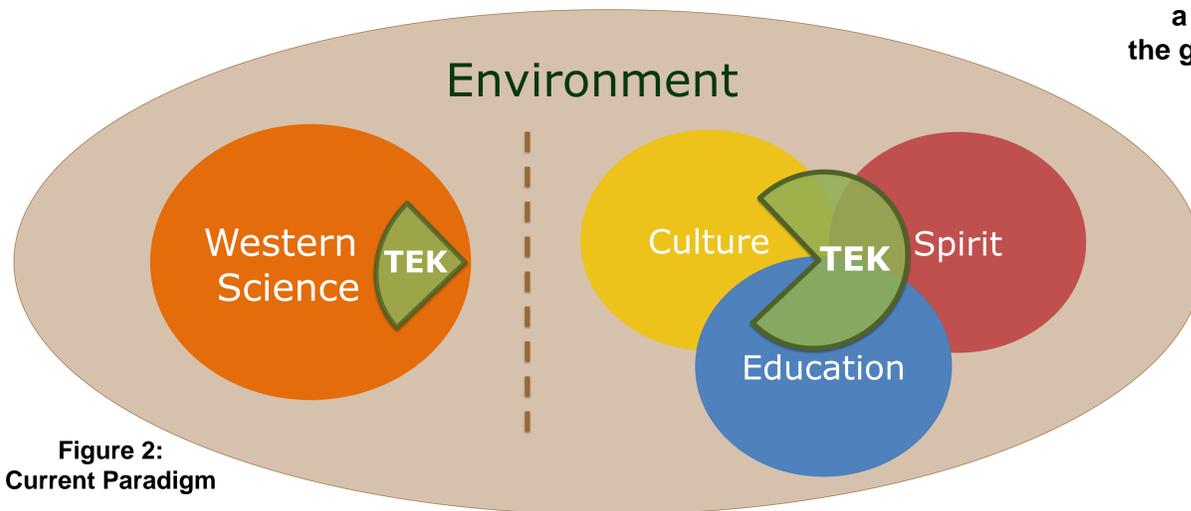


Figure 2:  
Current Paradigm

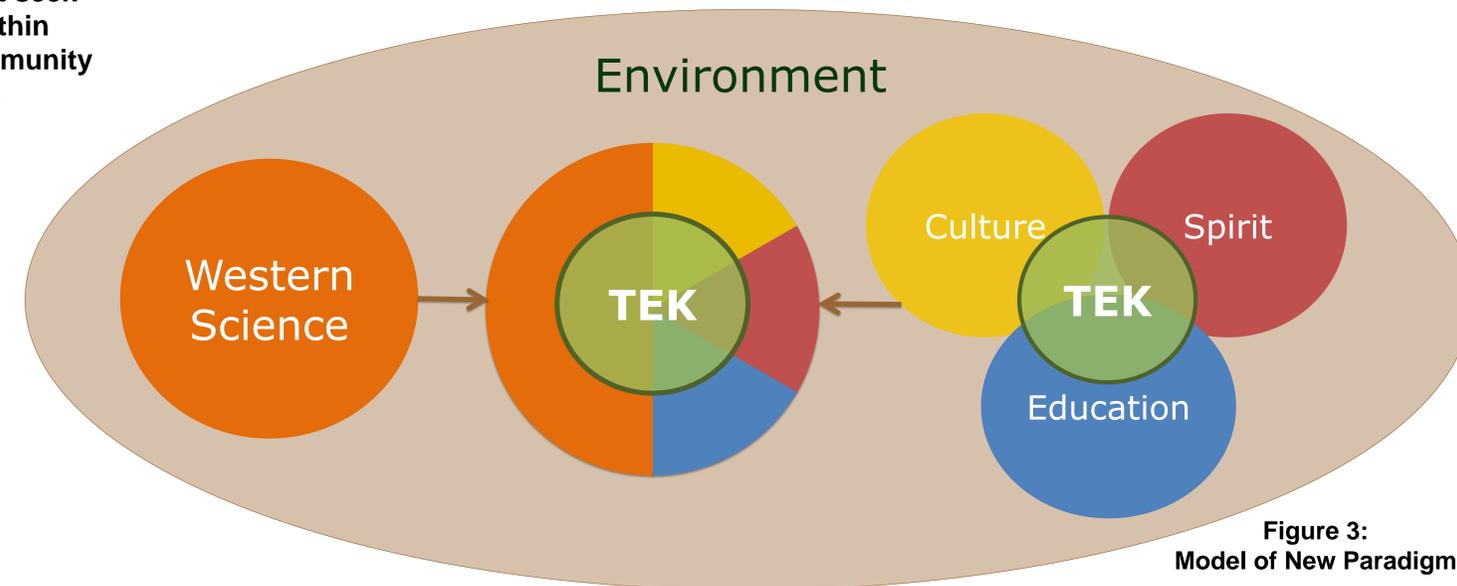


Figure 3:  
Model of New Paradigm

## Works Cited

- Berkes, F. (1999). *Sacred Ecology*. Routledge: New York, New York.  
Cajete, G. (1999). *Igniting the Sparkle, An Indigenous Science Education Model*. Skyand, NC: Kivaki Press.  
Egri, C.P. (1997). Spiritual Connections with the Natural Environment. *Organization & Environment*. Dec. 1997; 10, 4, pp. 407-431. Retrieved from: <http://oae.sagepub.com/cgi/reprint/10/4/407>  
Mander, J. (1991). *In the Absence of the Sacred, The Failure of Technology & the Survival of the Indian Nations*. San Francisco, CA: Sierra Club.  
Pierotti, R. & Wildcat, D. (2000). Traditional Ecological Knowledge: The Third Alternative (Commentary). *Ecological Applications*. October 2000, 10(5), 2000, p. 1333-1340.  
Whiteman, G. (2004). Why Are We Talking Inside?: Reflecting on Traditional Ecological Knowledge (TEK) and Management Research. *Journal of Management Inquiry*. Vol. 13 No. 3, September 2004 261-277. Retrieved from: <http://jmi.sagepub.com/cgi/reprint/13/3/261>

## Conclusions

- ✧ It is essential that Western Science and Indigenous cultures come together to establish a new paradigm to preserve the cultural context of TEK.
- ✧ The reductionist structure of western science will need to adapt to the insights offered by TEK's holistic approach if conservation strategies utilizing TEK are to be successful. Western science ought to seek out and nurture this new, integrative paradigm.
- ✧ The integration of TEK and western science without western science absorbing or dominating TEK offers greater benefits to the development of effective conservation strategies that may have major positive impacts on the global environment.
- ✧ The goal should be to develop collaborative frameworks for conservation strategies which are truly cooperative and empowered.