

Spirituality, Worldview, and Indigenous Knowledge

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Summary: Worldview is an aspect of indigenous knowledge that gives meaning and significance to specific technical knowledge. Water development that reflects Western cultural worldviews emphasizes economic returns, whereas water development reflecting indigenous spiritual worldviews emphasizes the health and sustainability of the water environment. The case of water development among the Hopi Indians (Arizona, USA) is described. The current use of groundwater for coal mining operations is endangering the sustainability of water used for the basic sustenance of the Hopi communities. The controversy within the tribe regarding the desirability of using water for coal mining reflects the competing worldviews of the tribal government (adopting a Western worldview of economic development) vs the indigenous spiritual worldview which sees water as sacred. This controversy highlights the relationship between worldview and knowledge systems.

Can religion, spirituality and worldview be considered part of indigenous knowledge? In this Note, I suggest that not only is worldview a type of knowledge, but that the meaning and practice of an indigenous society's technical knowledge hinges on that worldview. The practical and the spiritual support each other. Without the technical practice – how water is diverted for agriculture and how the crops are cultivated – the spiritual worldview is unsupported, and without the worldview, the practice of agriculture loses its meaning. Indeed, this is precisely what is happening to the agriculture sector in many regions. A Western market-oriented worldview that recognizes only the production value of agriculture, leaves farmers feeling even more poor than they already are. Appreciating the spiritual value of traditional agricultural practices is not merely an intellectual trick; it has implications for the happiness of farmers and for our understanding of what constitutes poverty and wealth.

Spirituality for indigenous peoples is not about a system of belief, but rather a system of knowing – of knowledge. Indigenous knowledge is spiritual knowledge; there is no boundary between what is spiritual and what is technical. The notion that there is such a thing as “religion” which is separable from the body of knowledge called “science” is a Western concept dating to the relatively recent period of the (unfortunately named) “Enlightenment” of the 17th and 18th centuries.

The indigenous worldview of spirituality comes into conflict with Western modes of thought that emphasize economic valuation. Is water a natural resource or a sacred trust? In the Western concept of development, water is a resource that can be harnessed for economic and social benefits such as hydropower, irrigation, and for domestic water uses such as drinking, bathing and even recreation.

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Water development in some fashion is certainly necessary; humans are about 75% water, and this water has to come from somewhere. But what are the guidelines for proper use and management of the water that we need? What is appropriate use of water, and what is not?

The Western Paradigm of Water Development

In the Western view of water development, there have been two major paradigms in the past half-century. The earlier paradigm popular in the mid-20th Century was to harness rivers for maximum short-term economic benefit, particularly hydro-power and irrigation. As concerns about environmental impacts took on greater importance in the 1970s and 80s, a new paradigm emerged that called for sustainable water development, with greater attention given to long-term water quality and sustainable water yields.

Today's water development paradigm is certainly more sophisticated than the paradigm of the 1950s and 60s. But it is still fundamentally economic in its value-orientation. Is it the right paradigm for indigenous societies? Should they adopt the latest Western concept of how water should be developed? There is little doubt that the new development paradigm of today will become the old paradigm of tomorrow. Indigenous societies might prefer to apply their own paradigm of what water is and how it should be developed.

Indigenous Paradigms of Water Development

In the World Water Forum held in Kyoto, Japan in March 2003, indigenous participants drafted a Declaration summarizing their views on water, and articulating a spiritual and moral imperative to defend Mother Earth from the abuses she is incurring from conventional water development.² The introductory words of the Indigenous Peoples' Water Declaration very clearly demonstrate the identification that indigenous spirituality makes between people and Nature:

1. We, the Indigenous Peoples from all parts of the world assembled here, reaffirm our relationship to Mother Earth and responsibility to future generations to raise our voices in solidarity to speak for the protection of water. We were placed in a sacred manner on this earth, each in our own sacred and traditional lands and territories to care for all of creation and to care for water.
2. We recognize, honor and respect water as sacred and sustaining all life. Our traditional knowledge, laws and ways of life teach us to be responsible in caring for this sacred gift that connects all life.
3. Our relationship with our lands, territories and water is the fundamental physical cultural and spiritual basis for our existence. This relationship to our Mother Earth requires us to conserve our freshwaters and oceans for the survival of present and future generations...

This spiritual worldview has important implications for water management. When water is viewed as a sacred part of Mother Earth, to whom we have a responsibility for protecting that water, then

² The full text of the Indigenous Peoples' Water Declaration, along with an overview of indigenous presentations made at the World Water Forum, is available at www.indigenouswater.org.

water management becomes a spiritual practice. Through the choices we make about how water is managed, we are expressing our reverence for the water, and for Mother Earth.

Just as indigenous knowledge systems are being rediscovered and re-appreciated for their potential application in economic production (e.g., agriculture, forestry, fisheries, etc), so too indigenous spirituality and worldview is undergoing a process of revitalization.³ One systematic approach to encouraging the revitalization of indigenous knowledge for development is the Compas Project, based in The Netherlands. The project “supports local people in appreciating, testing and improving their own knowledge and practices. Compas emphasizes the local ownership of knowledge, and supports the capacity of local people to learn and experiment so as to improve their livelihoods.”⁴ But the most important work of revitalizing indigenous worldviews is being done inside indigenous societies. An example from the Hopi Indians in Arizona (USA) illustrates how indigenous spirituality is tied to the indigenous knowledge about water and indigenous agricultural practices.

Water and Worldview among the Hopi Indians (Arizona, USA)

The Hopi Indians have lived in northern Arizona for the past 700 years, and their ancestors practiced agriculture in nearby areas for at least 1000 years before that. The Hopi know how to farm in their high altitude desert environment, and they know the value of water. Water for domestic uses comes from springs and seeps; water for agriculture comes from summer rains, and in some locations is supplemented by irrigation from the springs.

For the past 40 years, the Hopi have shared their territory, and their water, with the Peabody coal mine. The mine operators have a contract with the Hopi tribal government to extract groundwater for its mining operations on Black Mesa. The pristine water is mixed with the coal to form a slurry which is conveyed by an open aqueduct nearly 400 kms to an electrical generating plant serving cities in southern California. The contract allows Peabody to pump water from an aquifer which feeds the springs and few streams that comprise the sole source of water – other than infrequent rainfall -- for the entire Hopi tribe, and for the Navajo communities in the vicinity. The mine pumps about 3.3 million gallons of pristine groundwater every day, in one of the most arid regions of the United States. As a result of the pumping, the Hopi streams are starting to dry up. Many Hopi now obtain their water by driving their pick-up trucks to a still viable source and filling steel drums to take back to their houses. Agriculture that depends on diverting spring-fed streams, and the religious ceremonies that traditionally take place around the springs, can no longer be performed.

What has happened to the Hopi spiritual worldview that considers the springs as sacred? The mine is operating with the consent of the Hopi tribal government. More than 25% of the tribal government's budget derives from the royalties and fees collected annually from Peabody, and the tribal council is not in favor of rescinding the contract for this financial reason. There is a classic clash of worldviews within the Hopi tribe itself. The tribal government, a body created in 1947 by the American Bureau of Indian Affairs, has adopted the Western worldview that water and land are

³ See, David Groenfeldt (2003) The future of indigenous values: Cultural relativism in the face of economic development. *Futures* (35):917-929.

⁴ The Compas web site (www.compas-network.org) contains downloadable reports and links to partner organizations around the world.

resources to be used for economic development. Most of the Hopi tribal members, on the other hand, maintain a traditional worldview.

The controversy within the tribe has led to the formation of an organized Hopi opposition group, the Black Mesa Trust⁵, dedicated to the preservation of the water supplies that the Peabody coal mine is depleting. The organization is headed by a formal Hopi tribal chairman who has changed his own views about the mine since leaving office, and who has galvanized many Hopi to speak out.

The approach of Black Mesa Trust is to appeal to Hopi spiritual values about water in general, and particularly the sacred springs which are now going dry from over-pumping by the mining company. The argument is not based on economics (although the argument could be made that the tribe's contract with Peabody coal drastically under-prices the water), nor is it based primarily on environmental considerations (though the deterioration of the aquifer is an important concern). The message of Black Mesa Trust is primarily spiritual and cultural: the sacred springs are suffering just as the language is suffering. The next generation is in danger of being left without Hopi water and without the Hopi language. This message resonates with the Hopi people because their spiritual view of water remains largely intact. They are losing their water, but they have not lost their values:

*Black Mesa represents the earth center, Tuuwanasave'e. Underneath lies untold wealth. We believe the aquifers breathe. They breathe in the rain and snow and breathe out in the form of springs. The springs are breathing holes -- passageways to Paatuuwaqatsi (the water world). Over 30 years of groundwater pumping by Peabody has weakened the water pressure and weakened the aquifer's breathing, causing many of our springs and washes to dry up. We believe it is time for everyone, especially the indigenous peoples of Black Mesa, to unite in defense of our sacred waters.*⁶

If the Hopi opposition is successful in evicting the coal mine and protecting the sacred waters, it will be a victory of their indigenous worldview over the Western worldview adopted by the tribal government. The two opposing worldviews imply radically different economic strategies and hence call for different systems of technical knowledge to realize those strategies. An indigenous worldview creates a demand for indigenous technical knowledge – as well as non-indigenous knowledge -- that is consistent with that worldview. Sacred water can be applied to agriculture, for example, so agricultural knowledge becomes important. Renewable solar and wind energy is also being explored for meeting local needs and as a potential export. Black Mesa Trust is looking into the feasibility of bottling the pristine groundwater. Another tribe in the region is marketing indigenous foods through the Internet.⁷

Worldviews establish a context for using indigenous knowledge. When worldviews change, there is a concomitant shift in how particular types of knowledge are valued. A spiritual worldview is not necessarily limited to traditional technologies, but neither will such a worldview be open to all technologies. Worldview provides a filtering function vis a vis the outside world, inviting some technologies and economic strategies, while not accepting others. In this sense, a society's worldview protects the integrity of the culture, encouraging knowledge that supports the long-term cultural interests of that society.

⁵ For details about Black Mesa Trust, see their website: www.blackmesatrust.org.

⁶ Excerpt taken from the Black Mesa Trust website.

⁷ See the website of Santa Ana Pueblo in New Mexico: www.cookingpost.com.