

Haskell and HERS - A Brief History

Haskell Indian Nations University, located in Lawrence, Kansas, represents a keystone institution for education, research, and extension on environmental issues among American Indian tribal nations and Alaska Native communities throughout the U.S. Originally established in 1884 as an off-reservation boarding school for young children in the Midwestern states, Haskell has become a collegiate base that serves all federally recognized American Indian tribal nations and Alaska Native communities. Haskell recently changed from a two-year junior college into a four-year bachelor's degree granting institution. Baccalaureate degrees that have been developed are environmental science, American Indian studies, business administration, and teacher education. Haskell's environmental science degree, slated to begin in Fall 1999, will offer tracks in environmental chemistry and biology. This unique curriculum uses an interdisciplinary approach to prepare students for work with Native American natural resource or environmental programs or for graduate school. The Environmental Science Program integrates traditional knowledge of Native American and Alaska Native environmental sustainability along with a broad conceptualization of math and science, technical skills, and the ability to integrate tribal and federal programs within the framework of Indigenous value systems. Haskell's body of approximately 880 students representing over 130 tribal nations is the largest and most diverse population of Native American college students in the U.S.

Haskell is a member of the American Indian Higher Education Consortium (AIHEC), an organizational body representing the 32 colleges that serve the higher education needs of indigenous peoples in North America. Haskell's multi-tribal constitution and AIHEC membership offers tremendous opportunities for providing assistance to other AIHEC institutions in curriculum and capacity building and as a resource for coordinating cleanup actions and capacity building for tribal governments.

Haskell has been involved in extension work since 1994, with the inception of the Haskell Environmental Research Studies (HERS) Center. The HERS Center is dedicated to the development and application of technologies grounded on the holistic and healing foundation of traditional Indigenous Ecological Knowledge. This Traditional Ecological Knowledge directs center efforts in environmental education, technology transfer, research, and community service. The center promotes sustainable and restorative activities for Native communities and environmental health, in order to advance tribal sovereignty and self-determination. Toward fulfilling this mission, HERS has produced several videos and satellite programs on environmental issues in Indian country, has facilitated cooperative research programs between faculty at tribal colleges and major research universities, has supported training in water quality analysis for tribal environmental professionals, and assists tribal communities dealing with hazardous waste issues through its Technical Outreach Services for Native American Communities (TOSNAC) Program.

HERS - current projects

At the present time, HERS focuses its activities into three areas: outreach, education, and communication. Following is a discussion of the on-going projects in each of these areas and recommendations on how these endeavors could be enhanced by additional funding

opportunities.

Technical outreach - TOSNAC

TOSNAC is funded through the EPA Community Involvement Outreach Center Branch Office and is administrated by Great Plains/Rocky Mountain Hazardous Substance Research Center (HSRC) at Kansas State University. TOSNAC provides tribal communities with the opportunity to integrate traditional Native American knowledge with scientific information and has the capability of drawing upon expertise from HSRC programs across the nation. The goal is to provide Native American communities impacted by hazardous substances with an independent understanding of underlying technical issues so that they may contribute substantively to environmental decision making processes.

Within the past two years TOSNAC has provided services to 49 tribes and Alaskan Villages. Outreach was provided to 8 Superfund sites, 3 Formally Used Defense Sites, and 5 Brownfields sites. Extent of technical training and services varies from tribe to tribe. Additional funding is necessary to provide technical outreach services for tribes working on environmental issues outside the realm of hazardous substances. TOSNAC partners with universities from four of the five Hazardous Substance Research Centers to provide special expertise to the tribes.

Tribal environmental program managers often request technical assistance for issues such as; waste dump site cleanup projects, wastewater treatment management and certification programs, pesticide management, oil well capping and oil field cleanup programs, water quality and water rights issues, radon and lead abatement programs, development and the maintenance of tribal environmental programs, which may involve monitoring programs, cleanup activities, and the creation of codes and ordinances. Within the past year, HERS has referred tribes to agencies and other organizations in hopes of directing them toward assistance in the management of all the issues listed above. For example, the Prairie Band Potawatomi Nation of Kansas requested HERS assistance in the remediation of a creek that was impacted by a crude oil spill. Since the spill two years ago, fisheries resources from the stream have not been utilized. The Prairie Band Potawatomi Tribal Environmental Office has requested technical assistance in remediating their valuable natural resources. The tribe places value on HERS cultural sensitivity to such issues. However, assistance is limited due to lack of multimedia program funding-oil is not a hazardous substance.

Recently, EPA has initiated several new tribal Brownfield Pilot projects. Technical assistance could be valuable to tribal communities involved in environmental cleanup processes. However, at this time there is no funding available for a Tribal Brownfields Coordinator. Currently, the Great Plains/Rocky Mountain HSRC funds technical assistance to the Turtle Mountain Chippewa San Haven Redevelopment Project. The Western Region HSRC has requested assistance from the TOSNAC Coordinator at Haskell in pursuing involvement at Tribal Brownfield sites in that region. It is important to utilize HERS staff in these processes in order to more adequately address culturally sensitive issues. HERS involvement in tribal communities also provides advanced groundwork important in building the trust relationships that are frequently missing in tribe-to-government agency relations. Haskell has touched the lives of many families throughout Indian Country, which can lead to instantaneous rapport when Haskell staff travels to tribal communities. There would be other advantages of coordinating

technical support to tribal brownfield projects through the oversight of the HERS Center. Not only would it alleviate some of the duplication efforts expended by the five HSRC regions, but HERS staff have more experience working with tribal communities and have a broader understanding of issues related to tribal governments and policies. This is especially important considering that the standard procedures for brownfield redevelopment do not always apply to tribal capacity. Tribal communities have very different attitudes and relationships with the environment and with the land, in particular. Tribal approaches to brownfield redevelopment will be very different from mainstream, urban communities.

Education

HERS currently has three main programs to provide educational materials to tribal colleges and tribal environmental programs. The main programs are the Haskell Environmental Seminar Series, the Pesticide Technology Curriculum for Native Americans, and the Geoscience Curriculum for Native Americans.

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The Haskell Environmental Seminar Series provides public education on hazardous substances and related environmental issues relevant throughout Indian Country. Its mission is to facilitate communication among faculty and students and to foster cooperation in hazardous substance research, training, and technology transfer. Currently, the program has approximately 130 participants, which include AIHEC institutions, other minority academic institutions, tribal environmental offices, Kansas universities, and Environmental Protection Agency offices.

Seminar programs are presented using two methods of dissemination, videotape distribution and satellite uplinks. Many seminar programs are filmed in the television studio at Haskell Indian Nations University. One such program was a presentation by Emma Featherman-Sam and Kim Clauson of the Oglala Lakota Nation's Natural Resource Regulatory Agency, which offered information on the Badlands Bombing Range, located at Pine Ridge, South Dakota. The presentation focused on the history of the bombing range and the Oglala Lakota's efforts to remediate the area.

Pesticide Technology Curriculum for Native Americans

The Haskell Environmental Research Studies Center and Haskell Indian Nations University are developing a pesticide technology curriculum that focuses on Indian Country and the prudent use of pesticides, in hopes of providing an awareness of the environmental problems they cause. The curriculum is being designed to provide a means of reducing the impact of pests that negatively affect human health and agricultural, silvicultural, and livestock husbandry and production on tribal lands or through tribally-operated, pest management programs. The curriculum offers an opportunity to incorporate Native American knowledge into pest management practices. It will also provide a vehicle for aiding in the training of qualified Native Americans to develop and implement tribal pesticide programs.

When complete, the curriculum will consist of a series of interactive video-taped and textual materials. Filming is complete on the first module and a spring/summer '99 release is planned. The first module will include two video programs: "Integrated Pest Management: Two Views," an introduction to Integrated Pest Management (IPM) that explores the different philosophical

approaches to IPM used by Native and Western traditions; and "IPM in Action: Integrated Pest Management of the Colorado River Indian Tribes, Parker, Arizona, Parts I and II."

Geoscience Curriculum for Native Americans

This project is developing a video and textual curriculum that teaches the principles of earth science using Native American philosophies and concepts. The introductory module introduces basic earth science concepts by drawing upon indigenous native knowledge of the earth's geographic and geologic features and processes. In addition to developing additional course modules on such geographically areas as the northern Rockies and the Great Plains, the project also funds internship opportunities with the U.S. Geological Survey for tribal college students and development of a web site to facilitate dissemination of the curriculum modules.

Communication activities

HERS's main communication tool is the quarterly eight-page publication, *Earth Medicine*. *Earth Medicine* has been continuously published since December 1994 and is currently distributed to a mailing list of over 2000 people from tribal colleges, tribal environmental programs, other universities, industry and the federal government. The purpose of *Earth Medicine* is to keep HERS's target audience apprised of the status of on-going programs, like TOSNAC and the seminar program; and to advertise new opportunities for training and education, offered by HERS, Haskell, or other relevant entities.

Earth Medicine is currently funded through the TOSNAC and seminar series. Funds for the seminar series are slated to be expended by fall 1999, with no current source of continuation funding. Current funding levels for TOSNAC will not allow full publication of the newsletter to continue. Surveys of HERS's target audience have indicated that the newsletter is the best way to communicate with tribal colleges and environmental offices regarding HERS programs and opportunities.

Cultural Risk Assessment Support

Recently, HERS staff has been expending effort to lend assistance to the EPA's endeavors to redefine the Hazardous Ranking System (HRS) model and standard site assessment and risk assessment processes through the incorporation of traditional Native American values into more tribally appropriate systems of analysis. The purpose in reevaluating current cultural risk assessment practices is to optimize decision-making processes of environmental concern, thereby maximizing the social welfare of an impacted tribe and reaching popular decisions that preserve the political and cultural traditions of Native American communities. Implementation of a culturally inclusive program will ultimately improve the performance of risk assessment processes by integrating elements of capability, efficiency, reliability and maintainability that are consistent with tribal sustainability practices.

To be effective in solving environmental problems on Native American lands, risk assessment and management practices must integrate tribal cultural and ecological knowledge with scientific methodology. Some of the major sources of conflict in environmental disputes include

inadequate communication and understanding of costs, benefits and risks involved in a proposed action, competing resource demands, and differences in human values regarding relative worth of resources. From a tribal sustainability perspective, natural resource issues are inseparable from environmental issues. Because the health and cultural welfare of tribes are dependent upon their natural resources, an ecosystems approach to solving environmental problems becomes pervasive. Native American value systems incorporate the understanding and respect of the interconnectedness of humans with all other living things. Given the diversity of Native American culture, tribes must be given the distinct opportunity to incorporate their own unique values into a new system of risk assessment analysis through systematic procedures and interactive processes. A generic approach to addressing cultural risk assessment may not be practical, or feasible.

An inclusive risk management program entails cultural considerations in the processes of identifying, evaluating, selecting and implementing actions to reduce risk to human health and the environment. A model for risk management needs to include the following elements: 1) background research that explores oral and written historical sources, cultural and ecological resource applicability, archeology, and scientific records of the impacted tribe; 2) an examination of the current state of the tribal environment; 3) explicit communication of alternative solutions to environmental contamination issues, which incorporates traditional cultural and ecological knowledge; 4) implementation and 5) continuous monitoring of remedial action that is in harmony with tribal cultural and psychological identity. By adopting a co-management process between the tribe and involved agencies that incorporates constant observation and regulation of impact to human health and the environment, preservation of tribal natural resources and cultural value systems can be mutually regulated.

Many tribes are not aware of importance of cultural risk assessment issues or do not have the expertise or financial resources to devote to addressing the refinement of risk assessment and risk management systems. This is where the real value of Haskell and HERS comes into play in terms of contributing to the development of the new systems. Though HERS does not propose to represent any specific tribe, there are measures that can be taken to inform tribes of EPA activities, such as training sessions and progress being made in the development of cultural risk assessment guidelines. Articles in *Earth Medicine* can be utilized to generate interest and increase understanding in tribal participation. HERS can also be involved in disseminating information through other measures. Mechanisms are being put in place to support University of Alaska's "Public Stakeholder Research for Human Health Risk and Risk Management at Federal Facilities and Formerly Used Defense Sites in Alaska." Furthermore, HERS can stimulate the involvement of tribes that are currently being assisted through the TOSNAC program.