

# HERS SUPPORTS CONNECTION BETWEEN TECHNOLOGY AND NATIVE AMERICAN COMMUNITIES

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## ABSTRACT

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The Haskell Environmental Research Center works to facilitate the exploration of environmental issues and technology relevant to American Indian communities. HERS, based at Haskell Indian Nations University (HINU), administers several programs to stimulate the involvement of American Indians in these areas. Four of these programs are the Haskell Environmental Seminar Series, the Technical Outreach Services for Native American Communities (TOSNAC) Program, the Integrated Pest Management for Native Americans Project, and the Community/University Partnership (CUP) Program. The goal of the Haskell Environmental Seminar Series is to produce a series of seminars on environmental issues primarily for audiences at HINU and other American Indian Higher Education Consortium colleges and universities. The TOSNAC Program works to provide university educational resources to individuals, community groups, and environmental programs in tribal communities affected by hazardous substance contamination issues. HERS is coordinating the development of a pesticide technology curriculum for American Indians. The curriculum is focused on Indian country and the prudent use of pesticides, in hopes of providing an awareness of the environmental problems they cause. HERS and the Natural Resources Program at HINU are working with two northeast Kansas tribes to provide support and education regarding water quality issues. The CUP Program is intended to facilitate environmental coordination with the Prairie Band Potawatomi and Kickapoo Nations in northeast Kansas.

*Key words: Native American, minority, research, technology transfer, hazardous substances*

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## INTRODUCTION

The Haskell Environmental Research Studies Center (HERS) provides a forum for education, communication, and training for tribal colleges and environmental programs engaged in environmental issues. HERS seeks to incorporate the use of technology in accomplishing its mission of delivering needed information to its target audience of students and faculty at tribal colleges and tribal environmental professionals. HERS also works to introduce technology used in assessing environmental hazards to American Indian communities. Four programs that utilize technology are the Technical Outreach Services for Native American Communities Program, the Haskell Environmental Seminar Series, the Integrated Pest Management Curriculum for Native Americans Project, and the Community/University Partnership Program.

## TOSNAC PROGRAM

The primary objective of the Technical Outreach Services for Native American Communities (TOSNAC) Program is to disseminate university educational resources concerning hazardous substance contamination issues to affected tribal communities. The TOSNAC program is funded through the Great Plains/Rocky Mountain Hazardous Substance Research Center and is supported by the activities associated with the Technical Outreach Services for Communities (TOSC) Program.

### ***Approaches***

TOSNAC uses a four-step interactive program to bring university educational and technical resources to Native American communities. These steps include assessing community needs, developing outreach information, delivering outreach information, and evaluating support. Through the process of identifying and developing positive working relationships with tribal communities, TOSNAC will assist experts in making assessments of specific technical needs, coordinating technical assistance, developing and adapting informational materials, as well as presenting workshops to communities.

### ***Sites***

In its initial year, the goal of the TOSNAC Program is to identify and begin providing technical support to at least four tribal communities. Communities that TOSNAC is currently providing support to are the Oglala Lakota and the Prairie Band Potawatomi Nations.

#### ***Oglala Lakota Nation***

The Oglala Lakota Nation has a 341,725-acre bombing range. The tribe is working with the Army Corps of Engineers to remediate the range so that it can be returned to the tribe's control. Current and potential support to the Badlands Bombing Range Project (BBR) via TOSNAC includes reviewing technical reports, serving on a tribal technical advisory committee, and providing training to BBR and Oglala Lakota regulatory program staff. Specific training topics could include innovative technologies for site assessment and monitoring, and water quality and environmental data analysis.

#### ***Prairie Band Potawatomi Nation***

The Prairie Band Potawatomi Nation reported an oil spill from an unlined storage tank in 1997. Contaminated soils near the tank and draining into Soldier Creek were not completely remediated. There is also potential groundwater contamination of the tribe's source of drinking water. The TOSNAC Program is in the initial stages of assessing the tribe's technical needs and developing a work plan.

### **HASKELL ENVIRONMENTAL SEMINAR SERIES**

The goal of the Haskell Environmental Seminar Series (HESS) is to produce video programs focusing on environmental issues of relevance to tribal communities. The target audience for this series includes students and faculty at the 31 American Indian Higher Education Consortium colleges and universities. This project provides technical information to students, faculty, and tribal environmental professionals throughout the U.S. using videotaped seminars.

### ***Video Programs***

As part of its current series, HESS has produced two video programs and filmed two on-campus lectures. "Environmental Justice in Indian Country" discussed the history of the environmen-

tal justice movement and how Native American communities define environmental justice. The panel discussion revolved around what environmental justice is and how it can be implemented at tribal and grass-roots levels. "Microscale Chemistry in the Classroom" defined microscale chemistry and explained its benefits. Demonstrations of the construction of microscale glassware and experiments such as determining the boiling point of experimental liquids and titration procedures are included.

Campus lectures included "Native American Environmentalism at the Cusp of the Millennium." This was a lecture by Winona LaDuke, environmental officer for the Seventh Generation Fund, a Native American foundation supporting grass-root initiatives in environmental justice and community restoration. LaDuke discussed environmental problems facing Native American communities. The second campus program was "The Effects of the Nuclear Policy Act of 1997," a lecture by Corbin Harney, a Shoshone spiritual leader. Harney's presentation focused on the effects of nuclear testing on Native American communities living in southern Nevada. He talked about the negative impacts on land, cultural resources, and the environment on the Shoshone reservation.

To complete the series, HESS will film a pollution prevention demonstration video in collaboration with the Pollution Prevention Institute at Kansas State University and a roundtable discussion on tribal environmental planning and management in fall 1998. Two additional campus lectures will be filmed in fall 1998.

## **IPM CURRICULUM**

The Haskell Environmental Research Studies Center and the National Institute for Land Management and Training (NILMT) at Kansas State University are coordinating the development of a pesticide technology curriculum for American Indians. The curriculum is focused 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 American Indian knowledge into pest management practices. It will also provide a vehicle for aiding in the training of qualified American Indians to develop and implement tribal pesticide programs.

### ***Curriculum Components***

The first component in the curriculum is "Integrated Pest Management: Two Views," a video program that compares Western and Native American approaches to Integrated Pest Management (IPM). This component is currently in the peer-review stage. The second component is a presentation on IPM from a tribal natural resource manager's perspective. The geographical focus of this program will be the Prairie Band Potawatomi Nation located in northeast Kansas. The third and

fourth programs will focus on agricultural issues related to the Colorado River Indian Tribes, located in the Southwestern U.S. The fifth program in the series will focus on Buffalo herd restoration and will examine economic development and cultural issues in the upper Midwest. The project also plans to explore IPM issues in the Southeastern and Northwestern portions of the U.S.

#### Uses of Technology

The curriculum will be presented through a variety of media, including video and text. Video-taped components comprise the main delivery method. The video components are a departure from the standard lecture format that many instructional videos utilize. The video programs are instructionally interactive, meaning the viewer is challenged at several points within the program to recall the material previously presented and relate it to the material being discussed.

### **COMMUNITY/UNIVERSITY PARTNERSHIP PROGRAM**

HERS and the Natural Resources Program at Haskell Indian Nations University are working with two northeast Kansas tribes to provide support and education regarding water quality issues. The Community/University Partnership (CUP) Program is intended to facilitate environmental coordination with the Prairie Band Potawatomi and Kickapoo Nations in northeast Kansas. Efforts include facilitating the education of the tribes in the areas of assessing water quality hazards, remediating water quality problems, complying with existing water quality standards, and creating a remediation plan for resolving the water quality issues. To accomplish these results, the program is targeted at providing hands-on workshops on various water problems that threaten the respective communities and at contacting Indian and non-Indian landowners to build consensus on a water contamination remediation plan.

#### ***Workshops and Training***

A workshop on water quality analysis was held on the Kickapoo Reservation in June 1997. It included laboratory and field sessions, and was facilitated by Ben Whiting, an instructor in environmental science and conservation at Sinte Gleska University in Rosebud, South Dakota.

A second workshop is being planned for summer 1998, which will be held at the Prairie Band Potawatomi Nation and will focus on sediment pools. The workshop will explore the various options available for capturing and storing water and discuss the pros and cons of each approach. Water retention strategies to be discussed will include sediment ponds and other surface structures, and aquifer storage options. Regulatory and legal issues will also be discussed.

#### ***Student Practicum***

Water quality—the identification of water degradation, water testing, and evaluation of possible contaminants—was the focus of the 1997 Environmental Education Practicum. Eleven American Indian students from Kansas, grades 7 through 12, participated in environmental education curricula to define, investigate, and report on water—the most sacred element in traditional Ameri-

can Indian teachings. Through a teamwork approach, students tested the water quality of the Delaware River and within the Kickapoo Reservation in Horton, Kansas. The hands-on environmental education activities provided and encouraged problem solving and decision making in accomplishing a common pollution prevention goal. The summer practicum focused on water quality impairment from agricultural chemicals, well-head contamination from commercial and agricultural activities, and the bioremediation value of riparian and wetland areas.

## **CONCLUSION**

The programs and activities of HERS seek to deliver education, communication, and training to tribal colleges and environmental programs on hazardous substance and other environmental issues. Training in the use of technologies for assessing environmental hazards is provided where appropriate. Technology is also used as a delivery tool in several programs.

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