



ICIK E-News

Interinstitutional Consortium for Indigenous Knowledge

Dr. Ladislaus M. Semali and Dr. Audrey N. Maretzki, ICIK Co-Directors

Editor: Lori Thompson

A Peace Corps Experience in Nepal

By Nellie Bhattarai

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Nellie at the Peace Corps headquarters office in Nepal

Nellie Bhattarai served in the Peace Corps from 2002-2004 as a Soil Conservation Volunteer in Nepal, working with villages in the central district of Palpa. Her BS in Environmental Resource Management from Penn State's College of Agricultural Sciences was a springboard into the Peace Corps. Nellie grew up on a large farm near Muncy, PA, where she and her three siblings were encouraged to explore the natural world around them. After returning from Nepal, Nellie worked with a non-profit land conservancy, on a fruit farm, and as a wildlife and fisheries science technician before becoming the Peace Corps Recruiter at Penn State. She can be reached at peacecorps@sa.psu.edu or 814-865-4594 by anyone interested in learning more about serving abroad through the Peace Corps.

It is human nature to live in a way to preserve one's self. Indigenous cultures have been doing this for thousands of years. Some cultures have developed sustainable solutions that preserve their community's way of life and the natural environment on which that way of life depends. This is one of the goals of the Peace Corps: cultivating sustainable solutions in, currently, 77 developing countries around the world.

My Peace Corps experience is similar to that of others, though each volunteer has stories to tell! The foundation of a solid environmental/agricultural education, as well as practical experience, gave me a good starting place to share new skills, ideas, and perspectives within semi-rural communities in Nepal.

I found that the people had a way of life that had been in place for a long time. Transferring skills was going to involve more than simply showing them how to protect the environment by practicing agriculture differently. Volunteers are warmly welcomed by host communities in Nepal, but it takes several months, lots of casual conversation and countless cups of tea to form relationships and establish trust in the community upon which programs and ideas could be built.



Village leaders resting for a moment while showing soil conservation rangers their community projects.

A Peace Corps Experience in Nepal

Continued from page 1.



Villagers of Bandi Pokhara, Nepal

The people of Nepal are wonderful! Calm and kind, the villagers were always quick to greet me with a smile and an invitation to sit and chat. It was through these many conversations that foundational relationships were built that allowed me to work side-by-side on current projects in the village. Through these relationships, I was able to gain a better understanding of the grassroots activities of the community as well as the community's unmet needs. Learning the language of Nepal was a challenge, but it gave me a great deal of credibility and I was able to build trust in the community because the people appreciated my respect for their way of life.

There was a lot to learn about as new volunteers: things like the monsoon season, a snow-less winter, seasonal fruits, vegetables and spices, living accommodations, and how to use local public transportation.



A terraced field at the beginning of rice planting season

I had many questions after my first bus ride across the country to our training site: Why do the towers of straw have a branch sticking out the top? Why don't they fix the road? Why do the people carry handkerchiefs everywhere? The answers came easily when I asked the questions: To stabilize the pile. Because everything takes time and the government is not quick to respond. Because the roads are dusty and a handkerchief over one's nose and mouth is a good way to prevent sickness.

And so it was with programs. As the people got to know me better, and as I got to know their way of life, asking questions and suggesting that we work together to improve something in the community was welcomed and appreciated. By encouraging agro-forestry along the edges of the rice, corn, and potato terraces, I was able to show respect for their

traditional agricultural practices while also pointing toward a sustainable solution to combat soil loss and increase biodiversity.



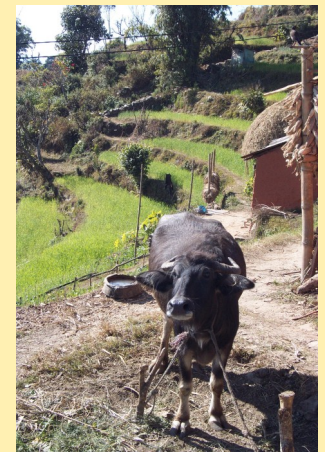
Terraced fields with a village home and straw pile in the back

I coordinated a workshop on an improved cook stove that validated the use of traditional mud stoves, while also illustrating a design that used less fuel wood and moved the smoke out of the house through a chimney, which, in turn, created a more healthful environment. Helping to build a bio gas plant validated the traditional practice of keeping a few animals close to the house to feed the family. The bio gas plant was a great way to use the raw waste material from these animals, which was decomposed through an underground anaerobic process to create and capture methane that could be used as a clean cooking fuel or for energy generation. However, it was important to keep new ideas within the context of what the people were already doing in the community.

My projects were fun, but one of the greatest lessons I learned in the Peace Corps is that people are the same around the world. We all need a deep connection to our indigenous roots to understand more about who we are and where we are going. When we go outside our own culture to learn about other cultures and ways of life, and teach others about ours, the world becomes a more informed and friendly place for all.



Women and children in Western Palpa District



Water buffalo with terraced fields in the background





Audra "hanging around" during her stay in New Zealand.

ICIK Welcomes its First Undergraduate Intern: Audra Kershner



Audra Kershner

Audra Kershner, a senior in Human Geography and Environmental Inquiry from Mount Joy, Pennsylvania, has been selected as the Indigenous Knowledge Undergraduate Intern for Spring 2012. Audra's co-supervisors in the University Libraries are Helen Sheehy, Social Sciences Head, and Debora Cheney, World Campus Head. Audra's responsibilities as an intern will be to promote the importance of indigenous knowledge to undergraduates at Penn State using a variety of student-oriented media. She will be working with a team of students that includes the Fall 2011 and Spring 2012 Bednar interns (Maeve Klutch, Emily Roth, Liz Remus, and Merliz Tejada), as well as Greta Righter and Katie Pellegrino. (It is Katie who initiated the idea of an ICIK undergraduate student organization.) Professor Ted Alter will serve as the club's faculty advisor. In addition to promoting ICIK activities, Audra will be working with this team to register the Indigenous Knowledge Club with the Office of Union and Student Activities and develop a plan for its activities in Fall 2012.

Audra's interest in indigenous knowledge was spurred on by two courses on Samoan and Maori culture that she took as a Study Abroad student at Victoria University in Wellington, New Zealand during Spring 2011. Audra says, "It was in these classes, where I had the rare opportunity to learn from a Maori-Samoan professor, [and] that I was able to understand an indigenous culture from an insider's perspective." Audra brings with her an enthusiasm for indigenous knowledge, as well as experience as an Engineering, Scientific and Technical Intern for the Pennsylvania Department of Environmental Protection, a Teaching Intern for Geog 160, Mapping Our Changing World, and as a Research Assistant in the Penn State Department of Geography. We are pleased to welcome Audra as our Spring 2012 Indigenous Knowledge Undergraduate Intern.

AFRICANA RESEARCH CENTER UNDERGRADUATE RESEARCH EXHIBITION 2012 Call for Spring 2012 Nominations (for Penn State students only)

FACULTY—If you have received excellent student research papers on topics related to Africa and its Diasporas, we seek your nominations of those papers for possible participation in the exhibition. Please submit the papers to the ARC for review.

STUDENTS—If you have written an outstanding paper or conducted research related to Africa and its Diasporas, please ask for nomination by your professor. If selected, you will get the chance to present your research to a public audience, where prizes will be awarded. The Undergraduate Research Exhibition is scheduled for **Saturday, October 20, 2012**.

NOMINATIONS ARE BEING ACCEPTED THROUGH MAY 7, 2012.

There is no special form. Faculty members should submit a nomination letter and the student's electronic 8–10 page paper to africanacenter@la.psu.edu.



PENNSYLVANIA
College of the Liberal Arts

AFRICANA RESEARCH CENTER

Learn more about Penn State's
[Africana Research Center](#).

[Who We Are](#)

[What We Do](#)



Meet the Spring 2012 Bednar Interns

Emily Roth introduces herself...



Emily Roth with small green friend

I am a Food Science major in the College of Agricultural Sciences. In Spring 2011, I was in South Africa participating in the Geography Department's *Parks and People* program. We worked on two rural nature reserves located on the Wild Coast of South Africa. My primary assignment was to write a research proposal to study the possible effect on local shellfish of algal blooms caused by fertilizer run-off. Agricultural extension agents have distributed fertilizer to community members in this hilly area where water drains into estuaries and the Indian Ocean, but did not consider local farming techniques or adequately train farmers in the use of commercial fertilizers. I think that this is one of many examples of how Western ideas are advanced with unanticipated environmental consequences.

I am excited to be a part of a program that respects and embraces indigenous knowledge. I hope I can be a voice for knowledgeable people who cannot articulate their knowledge in books or peer-reviewed journals. The idea that science has existed within populations as an innate sense is exciting to me, and I am looking forward to investigating this phenomena as a Bednar Intern.



Emily with goat

The Penn State University Libraries

Bednar Internship Program

Penn State's Bednar Internship program with the University Libraries Bednar Internship is offered in partnership with the Interinstitutional Consortium for Indigenous Knowledge (CIK).

Applicants must be students in Agricultural Sciences, Anthropology, Education, English, Rural Sociology, or Sociology of junior or senior standing for the applicable academic year.

Look for future Bednar internship opportunities [here](#).

Maeve Klutch is introduced by Liz Jenkins, Senior Lecturer in English...

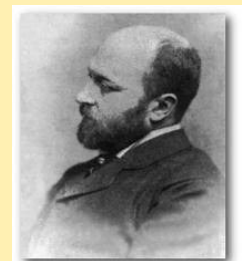
Maeve is an English major with a strong interest in archival research. Professor Michael Anesko, who directed her internship with the Henry James project, writes that she "has done yeoman service for the Cambridge Edition of *The Portrait of a Lady*. She helped prepare electronic texts of several different versions of that novel, and then aided in the electronic collation of them, to identify significant variations among the novels six different textual forms. Such work requires not merely close attention to detail but pride in the ultimate outcome, and Maeve admirably demonstrated both."



Maeve Klutch

Maeve learned a great deal from observing Professor Anesko's editorial skills and she is looking forward to learning about a whole new area of study. She says, "As an English major I am thrilled to be a part of the CIK because of the revealing stories that it tells—stories not only of the generations who have gathered knowledge before us, but also the story woven today about our generation's continued relationship to indigenous knowledge."

Read about the Cambridge Edition of [The Portrait of a Lady](#).



Henry James

Dennis Banks: A True Modern Day Warrior

By Cyndi Petrovich-Corn, Assistant Coordinator, Office of Institutional Equity and Diversity, Penn State, Altoona

Also see the article "[Modern Science 'Discovering' What Our Indigenous Ancestors Submitted a Millennium Ago](#)" by Ruth Hopkins, as recommended by Cyndi Petrovich-Corn.



Dennis Banks with Penn State Students and Professors after his presentation at University Park

Many people relegate all bad things that happened to American Indians to the distant past. Perhaps, it helps to assuage guilt over continued injustices against American Indians. However, all their suffering did not end at Wounded Knee in 1890, where, in one hour, the US Cavalry massacred nearly 300 American Indian men, women, and children who were practicing their Lakota ceremonies.

Life continued to be difficult for American Indians after Wounded Knee. Throughout most of the last century, high unemployment and low educational attainment were the norm for most American Indians who were made to feel ashamed of their identities. Fortunately, since the 1970s there has been a resurgence of American Indian culture.

Arguably, many people attribute the resurgence to the American Indian Movement (AIM) and, specifically, to Dennis Banks.

Dennis Banks was one of more than 30 leading Ojibwe educators, traditional elders, political leaders, artists, and medicine men and women who participated in the summer seminar, *The Environment, Culture, and Comparative Ways of Knowing and Learning* (CIED/ADTED 497), in upstate Minnesota. Subsequently, the Penn State Altoona Office of Institutional Equity and Diversity, the University Park Paul Robeson Cultural Center, and Capital Campus at Penn State Harrisburg invited Dennis to share his stories, sing some songs, and teach cultural understanding and native wisdom on each of the three campuses during the week of November 13-17, 2011, to celebrate Native American Heritage Month.



Dennis Banks and Carlos Wiley at the Paul Robeson Cultural Center

During his visit, Dennis told stories of his life, dined with students and professors, presented historical video clips, and sang "49er" tunes to packed audiences. He spoke of his early years, of being born on April 12, 1937, at Federal Dam on the Leech Lake Reservation in Minnesota. He and his siblings were raised by their grandparents, and learned traditional life ways from them. One of his early life lessons came when he killed a porcupine and, proud of his first kill as a hunter, told his grandparents of his achievement. Alarmed that he had killed an animal without cause, they directed him to return to the forest, find the animal's body and pray over it, then clean and cook it, all the while asking its forgiveness. Dennis never forgot that experience.

At the age of five, Dennis was forced to attend the Pipestone Boarding School with his older siblings. As he later recalled, an agent from the Bureau of Indian Affairs (BIA) came into their home yelling and waving a bunch of papers. Strong-willed from the beginning, Dennis deeply resented the coercion of the boarding schools. He ran away, was caught and beaten, then ran away again.

After finishing his public high school education in 1954, Dennis joined the US Air Force and was stationed in Japan. Returning to poverty in Minnesota a few years later, he was arrested and convicted of stealing groceries to feed a family of 10. While in prison, Dennis was determined to educate himself and became interested in the American Civil Rights Movement. He also studied the history of US government treaty-making with American Indians, and learned of the status of treaties in Article VI of the US Constitution as the supreme law of the land. Following his prison release, Dennis became one of the original founders of AIM in Minneapolis in 1968, along with Russell Means and Vernon and Clyde Belle-court. The first purpose of AIM was to bring Native Americans together to resist police brutality.

Native American Heritage Month (November)

For more information about the 2011 Native American Heritage Month and to plan ahead for November 2012, visit the [Native American Heritage Month website](#).



Image from the Native American Heritage Month website.

Dennis Banks: A True Modern Day Warrior

Continued from page 5.



Dennis Banks with some of the students from the 2011 class of "The Environment, Culture, and Comparative Ways of Knowing and Learning", CIED/ADTED 497

In 1972, Dennis was a leading organizer of the Trail of Broken Treaties, which began in San Francisco and Seattle as two converging caravans that arrived in Washington, DC, a few days before the 1972 national elections. The members of the caravan seized and ransacked the BIA's headquarters.

AIM members and supporters rallied again early in 1973, and occupied the village of Wounded Knee in South Dakota for 71 days. At that time, according to Dennis, Indians in South Dakota were treated no better than blacks in apartheid-ruled South Africa. Wounded Knee soon was surrounded by several hundred well-armed federal agents and troops, and became a battle site, with gunfights most nights, and several casualties. Two Indian men died from government gunfire during the siege.

Following the occupation of Wounded Knee, the Pine Ridge Reservation was plunged into more than two years of near-warfare between AIM and its adversaries in the tribal government. At least 66 people, most of them affiliated with AIM, were killed. Facing several federal criminal charges, Dennis and compatriots slipped out of Wounded Knee near the end of the siege. While many political murders on Pine Ridge went without investigation by the FBI, the government poured its resources into prosecuting AIM members who had occupied the hamlet. After 562 arrests and 185 federal indictments related to the occupation, the government obtained only 15 convictions.

Hollywood also took note of the occupation. During the 1973 Academy Awards ceremony, Marlon Brando, who won the Best Actor Award that year for his portrayal of Don Corleone in the "Godfather," sent on stage American Indian actress, Sacheen Littlefeather, to accept the award in his honor and to read a statement about the abuses American Indians had long endured.

Dennis evaded prosecution by taking sanctuary for a time in California under orders from Governor Jerry Brown. While in California, he earned an Associate of Arts degree from the University of California, Davis, and also served as chancellor of Deganawidah-Quetzalcoatl (D-Q) University. During his time at D-Q University, Dennis organized the 1978 march from Alcatraz Island to Washington, DC, called *The Longest Walk*, to protest legislation in Congress to abrogate treaties. In 1979, he taught at Stanford University. Later, Dennis took shelter on the Onondaga Nation in New York State, where FBI jurisdiction was not recognized by the Haudenosaunee (Iroquois) Confederacy.

Tired of a life in exile, and with a change in political leadership in South Dakota, Dennis returned home in 1994 to face criminal charges stemming from confrontations at the time when at least 66 AIM members and their allies were victims of unsolved murders on and near the Pine Ridge Reservation. Dennis served 18 months in prison. After release, he taught traditional Native American life ways, organized sacred runs that were held around the world, and later worked at Pine Ridge as a substance-abuse counselor. Dennis published two autobiographies, *Sacred Soul*, in 1988, and *Ojibwa Warrior* in 2004. The latter is being made into a movie. Dennis has had roles in the movies *War Party*, *The Last of the Mohicans*, *Older Than America*, and *Thunderheart*. He also appeared in numerous documentaries such as *A Good Day to Die*, *We Shall Remain*, and *Incident at Oglala*.

How Do You Prove You're an Indian?

"AMERICA'S first blood quantum law was passed in Virginia in 1705 in order to determine who had a high enough degree of Indian blood to be classified an Indian — and whose rights could be restricted as a result. You'd think, after all these years, we'd finally manage to kick the concept."

—NY Times,

December 20, 2011

Read the full NY Times Op Ed Article at: [How Do You Prove You're an Indian?](#)



Dennis Banks at the Cumberland County Historical Society before the tour of the Carlisle Indian School

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Dennis Banks: A True Modern Day Warrior

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Today, Dennis is fighting another war – a war against diabetes. Throughout the week at Penn State, Dennis talked openly about the changes he has made in his diet and lifestyle to lose weight and become more healthy. "Food is medicine. We have to look at it that way. We have to start viewing food as native people again." Dennis is one of the organizers of The [Longest Walk 3](#), a walk across America to bring attention to diabetes. "It is the intention of *The Longest Walk 3* to set in motion a series of plans that will return us to a path long followed by our ancestors; a path of planting, growing, harvesting crops, and healthy eating. This habit, linked to the daily activity of walking, running, and general exercise, will close the door to diabetes, heart failure, kidney failure, and other related health concerns."



Dennis Banks at the Penn State Altoona book signing of his autobiography, Ojibwa Warrior

During his visit, Dennis toured the Carlisle Indian School grounds with Cumberland County Historical Society historian, Barbara Landis. The Carlisle Indian Industrial School (1879–1918) was an Indian boarding school in Carlisle, Pennsylvania. Founded in 1879 by Captain Richard Henry Pratt, the school was the first off-reservation boarding school, and was a model for Indian boarding schools in other locations. It was one of a series of horrific nineteenth-century efforts by the United States government to assimilate Native American children from 140 tribes into the majority culture. The goal of total assimilation can be summed up in Pratt's slogan: "Kill the Indian, Save the Man."



Cyndi Petrovich-Corn and Dennis Banks at Penn State Altoona

Dennis Banks' achievements as a leader and outspoken activist for Native American rights and as a spiritual human being never cease to impress and inspire me. With warmth, determination, and honesty, he has never strayed from his path, and he speaks from the heart to anyone who will listen. While at lunch with a group of students, he advised us all to remember this day because "today won't ever happen again."

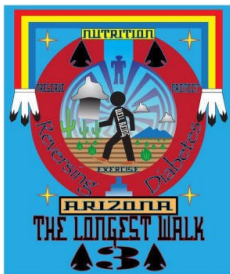
In the nearly 40 years since its founding, AIM's major focus has been on American Indian rights in the United States. However, since the 1970s, AIM leadership has identified many common interests of indigenous peoples in the United States and around the world. For example, the International Indian Treaty Council is an AIM-linked organization of indigenous peoples from the Americas and the Pacific focused on issues of sovereignty, self-determination, and the protection of cultural, legal, and land rights.

Without the American Indian Movement leadership, American Indians would lack a voice, as they did during the first three-quarters of the last century. In that spirit, Dennis is a true modern day American Indian warrior.

Indian Tribe Turns to Tradition to Fight Diabetes

Arizona's Tohono Nation hopes indigenous foods can help stop skyrocketing disease rate.

Watch the [NBC Nightly News](#) video.



Read more about the history of the [Carlisle Indian Industrial School](#).

See also the November 2011 ICIK Seminar, "[The Ripple Effects of Assimilationist Educational Policies and Practices for American Indian Students: From Boarding School Era to the Present](#)," by Kevin Slivka and Susan Faircloth on Adobe Connect.



PSU to Host Global Food Security Seminar for International Fulbright Scholars



Penn State's Office of Global Programs and College of Agricultural Sciences have been chosen to host a 4-day Global Food Security Seminar in March 2012 for 72 International Fulbright Scholars who are currently graduate students at U.S. universities. The Global Knowledge Initiative, a non-profit organization that seeks to

bridge the gap between developed and developing countries, will also play a key role in conducting the seminar.

Audrey Maretzki, ICIK Co-Director and a Fulbright grantee in 1983, will serve as Program Content Facilitator for the seminar. The program will allow participating Penn State faculty to learn about the complex food security challenges in the home countries of the Fulbright scholars while enabling the Fulbright scholars to better understand the research agenda related to global food security being pursued in the U.S. It is hoped that the seminar will also highlight the importance of incorporating the traditional knowledge of local women and subsistence farmers into development strategies designed to reduce food insecurity in rural areas.

Upcoming Spring 2012 ICIK Seminars

Wednesday, February 22, 2012

11:30 AM to 1:00 PM

Foster Auditorium, Paterno Library

We Milked the Rhino!

Student Ventures that Integrate Indigenous Knowledge to Empower Communities

Khanjan Mehta, Director, Humanitarian Engineering and Social Entrepreneurship (HESE) Program

The Global Milking the Rhino: Innovative Solutions Showcase is a venue for students around the world to engage in critical thinking about sustainable community development, developmental entrepreneurship, and the role of technology in creating new solutions to global inequities. This talk will present the work of two student teams recognized at the showcase that elegantly integrated indigenous knowledge into their solutions.

Wednesday, March 21, 2012

Noon to 1:00 PM

Foster Auditorium, Paterno Library

**Indigenous Knowledge and Development Change:
Cases of High-Agrobiodiversity Food Plant Complexes**

Karl Zimmerer, Head, Department of Geography, Penn State

Dr. Zimmerer's research on the environmental science and global agrobiodiversity hotspot of potato biodiversity in the Andes of Peru is quoted in ["The Eyes Have It: How the Potato Changed the World"](#) an article written by Charles C. Mann in the November 2011 issue of the *Smithsonian* magazine.

Thursday, April 12, 2012

Noon to 1:00 PM

Foster Auditorium, Paterno Library

Contemporary Indigenous Knowledge in Swaziland: 'Local Crafts' Transforming into 'Global Arts'

Dr. William Dewey, Penn State Department of Art History

Internet sites promote "beautiful items, handmade by Swazi women." Yet these women sell the same items to their neighbors for practical use. Who is selling what to whom? How do 'local crafts' become 'global art'?

University Office of
GLOBAL Programs

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AgScience

GLOBAL KNOWLEDGE INITIATIVE

Can you milk a rhino?



Maasai man tending cattle.



Swazi traditional artist at work

Food Security Case Studies

Gender Action launched a new project on gender and food security during the annual World Bank/International Monetary Fund Spring meetings in April 2011, highlighting how investments in agriculture, nutrition, and rural development often exacerbate food insecurity in developing countries, and how women and girls disproportionately suffer harmful impacts.

Read the *Gender Action* case studies on Ethiopia, Kenya, and Haiti at:

<http://genderaction.org/program/food/fdsec.html>



Injera: The Bread of Ethiopia

By Greg Ziegler, Professor of Food Engineering, Penn State Department of Food Science

Injera, a spongy sourdough flat bread traditionally made from the endemic grain *Eragrostis tef* (Zucc.), is the staple of nearly every Ethiopian meal. When they can afford it, adults consume 2-3 injera per day. One might say that injera is to Ethiopia what the baguette is to France.



Injera being distributed in Addis

said of beer, it is all in the water (as if all water in Ethiopia was the same). This is of more than mere academic interest to me, as I am currently involved in a project to commercialize the manufacture of injera.

T'ef is the smallest seed commercially cultivated by man; its 1000 seed weight averages 0.26 g (or about 0.3 mg/seed). According to information gained from farmers, pre- and post-harvest losses total more than 40 percent for t'ef, largely due to lodging (grain head becoming too heavy for stalk to support), shattering, and inefficient threshing. Threshing of t'ef is done on a special flat area of ground called *awdma* that is traditionally plastered by dried cattle dung. The harvested t'ef is scattered over the *awdma* and animals are driven over it to separate the grain from the straw. The grain is then winnowed to separate it from the chaff. Significant losses are incurred during these operations because of the small seed size. In addition, the quality and market value of the t'ef grain is reduced as it is



Farmer winnowing t'ef

mixed with soil and other foreign matter, which are difficult to remove and cause discomfort during the consumption of the affected injera. T'ef grain is either grown for home consumption or purchased in the market. In either case, it is taken to a local miller for grinding into flour. T'ef milling involves much less work than other grains as it is milled whole. For preparation of injera, the flour is mixed with an excess of water and *irsho* (a starter reserved from a previous batch), and allowed to ferment for 1-3 days depending on whether sweet (*aflegna*), slightly sour (*yeboka*) or very sour (*komtata*) injera is desired. The liquid that accumulates on top of the fermenting batter (*irsho*) is poured off, and a portion is reserved as a starter for a future batch. A portion of the batter is separated out, mixed with three parts of water and boiled to gelatinize the starch. This *absit* is returned to the bulk of the batter, and provides fermentable sugars for a secondary fermentation of one-half to two hours. During this time, the batter becomes leavened. Injera is steam-baked from one side only in a thin layer on a covered griddle (*mitad*) for two to three minutes over a very hot fire. Essential to the quality of injera is the formation of "eyes" on the top side from a properly leavened batter.

On my most recent return from Ethiopia, a woman boarding ahead of me carried with her four large bags of injera. Despite the appearance of injera on the menus of many Ethiopian restaurants and on the shelves of Ethiopian markets in cities like Washington, DC, it is commonly believed that "real" injera cannot be made outside of the Ethiopian highlands. I have heard several reasons for this, including the microorganism(s) responsible for its fermentation cannot grow outside of Ethiopia, the t'ef (tef, teff) available outside of Ethiopia is not "*Eragrostis abyssinica*" (this from an academic history of African cuisine), and perhaps most commonly of all, and which is often

Continued on page 10.

Injera: The Bread of Ethiopia

Continued from page 9.

T'ef is not the only grain used to make injera, but t'ef injera keeps better; even after three days of storage it is still soft and pliable. Thus t'ef remains the preferred grain even though it is more expensive. White t'ef is preferred over red or mixed t'ef because it produces a lighter colored and softer textured injera. T'ef grown in regions such as Gojjam command a higher price, and while I've been told this is due to the quality of the injera it makes, a local t'ef farmer and housewife told me the difference is largely in the purity of the grain (absence of foreign matter), and not its baking quality.

Ethiopians question the nutritional value of injera, but in his travel guide to Ethiopia, Philip Briggs extols it, noting that t'ef supplies more fiber-rich bran and nutritious germ than any other grain because it has proportionately more husk, "which is where most of the nutrients in any grain are stored." This may be one example where indigenous knowledge trumps Western ideas, for while those of us in North America may need more fiber in our diets, this may not be the case for Ethiopians. Fermentation, like bran removal during the milling of other grains, may reduce the level of anti-nutritional compounds like phytate and tannins in t'ef. We have hypothesized that this is the reason why the *irsho*, despite containing a significant amount of protein and water-soluble vitamins, is poured off of the fermented batter.



T'ef milling

Food value chains (FVCs) comprise all activities required to bring farm products to consumers. FVCs are changing rapidly in developing countries because of population and income growth, urbanization, and globalization of the food system. Consumers are increasingly demanding product-specific characteristics beyond price – including nutrient content, food safety, and indicators of impacts on natural resources, greenhouse gases and farm workers. In the *Science Policy Forum "Research Principles for Developing Country Food Value Chains,"* Gómez et al. state as their first principle "Focus on opportunities available in domestic markets," since in-country retail sales of domestically-produced food are three to four times

the sales of exports. A trend toward increasing supermarket sales in developing countries is primarily driven by higher incomes and changing diets among urbanizing populations.¹ Domestic markets generate greater economic gains through follow-on multiplier effects that help reduce poverty. "[T]he greatest poverty implications do not arise directly through purchases from poor farmers. Instead, these effects often occur indirectly through lower cost, more nutritious and safer foods for poor consumers, and increased employment of, and safer working conditions for, unskilled workers in commercial agriculture and post-harvest processing."¹

Injera is an almost daily food item for the urban population in Ethiopia. However, due to recent price increases, exclusive consumption of t'ef injera has become difficult for most middle and lower income households in urban areas. These households mix t'ef flour with the flour of other cereals such as sorghum, maize, rice, and wheat in making injera. In addition, due to limits on the supply of injera and restrictions on open fires for cooking, urban consumers are replacing the traditional injera with bread (pizza) and pasta, resulting in a loss of cultural identity. When we first began this project two years ago there was little to no commercial injera on the market; however, recently injera bakeries have arisen in major cities, particularly Addis Ababa, though this sector processes less than one percent of all the t'ef consumed in Ethiopia.

So, like the sourdough "peasant" bread produced by Poilane in France, injera, the cultural food icon of Ethiopia, may be saved for the masses through its commercialization.

Note:

¹ "Research principles for developing country food value chains," MI Gómez et al. *Science*, 3 June 2011, p. 1154.

Plan Ahead for the 2012 Bioneers Conference

The Bioneers Conference is a leading-edge forum presenting breakthrough solutions for people and planet. Join us on October 19-21, 2012 for the annual conference in San Rafael, California. Stay tuned for more information to be posted on the official [Bioneers Conference website](http://BioneersConference.org/website).



T'ef being sold in the market

2012 Global Milking the Rhino Innovative Solutions Showcase

By Khanjan Mehta

Milking the Rhino Innovative Solutions Showcase (MTR ISS), first started at Penn State in 2009, was created to encourage students to develop appropriate, innovative and sustainable strategies to empower African indigenous communities to leverage natural resources for their self-determined development. The showcase is inspired by an award-winning documentary of the same name, produced by Kartemquin Films, that examines environmental conservation from the perspective of people who live in the midst of wildlife, and offers a complex, intimate portrait of two community-based conservation efforts in Kenya and Namibia.



The event has brought together students from colleges across the Penn State campus including engineering, health and human development, business, agriculture, and education to develop three-minute (YouTube) video pitches. MTR ISS provides an opportunity for students to explore, appreciate and leverage knowledge acquired over time by the Maasai, Himba and other African cultures. Using this information, students arrive at proposed solutions to these communities' livelihood and conservation problems. MTR ISS emphasizes the importance of preservation of, and respect for, indigenous knowledge.

In Fall of 2011, a grant from the Marjorie Grant Whiting Center helped expand the competition to a global celebration of innovation and indigenous knowledge. This first international MTR ISS resulted in the submission of 61 video pitches from college and high school teams around the globe representing not only Pennsylvania but also Colorado, Michigan and Kenya. The pitches addressed specific problems related to the indigenous peoples' livelihoods, including wildlife and natural resource management, ethics, access to income, famine, gender inequality, and human rights.

The video which won the \$250 award for Best Use of Indigenous Knowledge was made by Penn State students, Elise Brown, Alex Gren, and Nicole O'Block. The team proposed a novel solution for keeping the Maasai's cattle herds, a very important source of income, safe from diseases commonly transmitted by pests and insects. Rather than using expensive and difficult-to-obtain commercial pesticides, the team demonstrated that locally grown garlic can be easily made into an insect repellent. Other winning ideas from the 2011 competition included a ceramic water filter to create clean drinking water, a modular and scalable greenhouse to increase food production, as well as a simple but highly effective "Tippy Tap" for washing hands to prevent communicable diseases.

Along with their videos, students also provided short responses describing what they learned by participating in MTR ISS 2011. Each student listed at least three aspects of indigenous African culture that they did not know about prior to participating in MTR ISS. They also learned how to fuse the indigenous knowledge and lifestyles with western knowledge systems to create sustainable value through appropriate technological solutions, which they identified as a precious real-world knowledge application experience. One student wrote: "We also learned that no one in Africa is just African or Kenyan, but that they come from a diverse background. Their families come from a specific tribe; hence, their history adds so much to their culture and history of how they were brought up."

View all of the [2011 MTR ISS submissions](#).

[MTR ISS's official website](#) contains more details about the showcase and all the winning pitches.

MTR ISS was hosted by the Humanitarian Engineering and Social Entrepreneurship (HESE) Program at Penn State and with support from the Marjorie Grant Whiting Center, Johnson & Johnson, National Collegiate Inventors and Innovators Alliance (NCIIA), Farrell Center for Corporate Innovation & Entrepreneurship, Center for Global Studies, ICIK, Kartemquin Films, The Media Commons, School of International Affairs, Dickinson School of Law and the Office of Student Activities.

About HESE

The Milking the Rhino: Innovative Solutions Showcase is hosted by the [Humanitarian Engineering & Social Entrepreneurship \(HESE\) Program](#) at Penn State University.

We are seeking champions who want to engage their own schools and universities in global innovation and entrepreneurship that harmonizes with our shared heritage of indigenous knowledge across the world.

Please visit www.mtrsolutions.weebly.com in August 2012 for information about the 2012 showcase.

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Figure 1: Best Use of Indigenous Knowledge. Cattle are a vital part of the Maasai economy. Keeping the cattle healthy requires repelling insect pests, but commercial insecticides are expensive and not locally available. By taking advantage of a chemical compound within garlic, the Maasai can create a garlic oil which acts as an effective repellent.



Figure 2: A Penn State team proposed a solution to the problem of water-borne illnesses caused by contaminated drinking water. A ceramic water filter using silver ions to disrupt microbial activity can turn unsafe water into drinkable water.

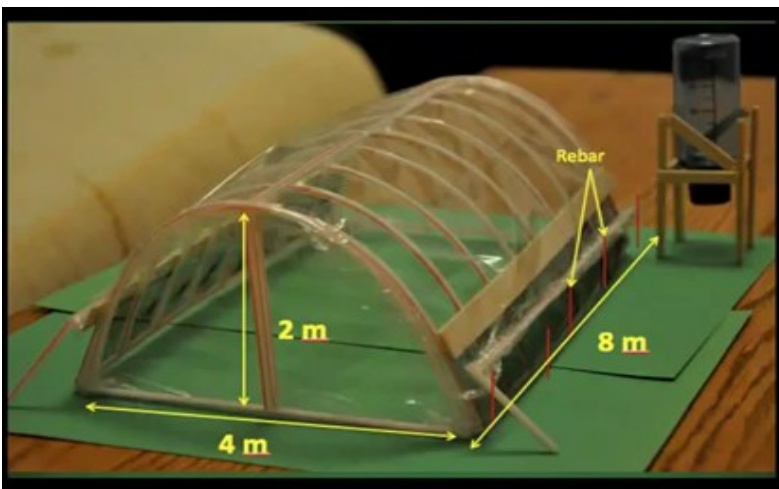


Figure 3: An affordable, modular, and scalable greenhouse can increase farmers' profits by increasing crop yield.

Visit the MTR Innovative Solutions Showcase on [Facebook!](#)



Milking the Rhino, by Kartemquin Films, examines the deepening conflict between humans and animals in an ever-shrinking world. It is the first major documentary to explore wildlife conservation from the perspective of people who live with wild animals. Shot in some of the world's most magnificent locales, **Rhino** offers complex, intimate portraits of rural Africans at the forefront of community-based conservation: a revolution that is turning poachers into preservationists and local people into the stewards of their land. (USA 2008, Festival 83 min./Broadcast 54 min.)



Join Us for the 2012 ICIK Spring Retreat

Interinstitutional Consortium for Indigenous Knowledge 2012 Spring Retreat

Friday, March 16
9:30 a.m. to 4:00 p.m.

Mann Assembly Room, Paterno Library, University Park Campus

Keynote presenters:

Douglas Herman

Senior Geographer with the National Museum of the American Indian

Michael Price

Academic Dean at White Earth Tribal and Community College in Mahnomon, Minnesota

Bruce Martin

Great Lakes Field Officer for "The Environment, Culture and Comparative Ways of Knowing and Learning"

The Planning Committee for the ICIK 2012 Spring Retreat has developed an exciting and very participatory retreat agenda that focuses on the new Indigenous Global Earth Observatory initiative of the Smithsonian Institution and how Penn State might be involved.



At Penn State we have the American Indian Leadership Program; researchers from several colleges working domestically and globally on climate change and its environmental, economic and social impacts; outreach programs helping community residents consider how they could be affected by climate change; an award-winning undergraduate course that enables students to acquire environmental wisdom and coping skills from Ojibwe elders and ICIK, an interinstitutional indigenous knowledge consortium that works to create synergies between traditional knowledge and Western academic knowledge.

There is no registration fee and lunch, with a vegetarian option, will be provided.

The participatory agenda requires that full-day registrants be given priority to attend this retreat. Those who would like to attend only the morning session (9:30 a.m.—12:30 p.m.) will be accommodated if space is available. If you would like to attend, please contact Audrey Maretzki at anm1@psu.edu as soon as possible, but **no later than by Friday, March 9.**

Please see the tentative retreat agenda on page 14.

The **Smithsonian Institution Global Earth Observatory** (SIGEO) are an outgrowth of and companion to the Center for Tropical Forest Science (CTFS). SIGEO builds on and expands the CTFS global network of forest plots, transforming it into a platform for a broader range of scientific investigations. CTFS research on tropical forest dynamics continues, but joins new initiatives to study carbon fluxes, temperate forests, and the impacts of climate change on biodiversity and forest function.

In the environmental sciences, SIGEO stands as one of the premier US-led international partnerships. Because of its extensive biological monitoring, unique databases, and the expertise of its partners, SIGEO promises to enhance society's ability to evaluate and respond to the impacts of global climate change.

Visit SIGEO.org.



2012 ICIK Spring Retreat Tentative Agenda

Indigenous Knowledge for Coping with a Threatened Environment

Friday, March 16, 2012

9:30 a.m. to 4:00 p.m.

Mann Assembly Room, Paterno Library, University Park Campus

Tentative Agenda

- 9:30 a.m. Participant Introductions
- 10:00 a.m. Douglas Herman, Senior Geographer, National Museum of the American Indian
Smithsonian Institution's Indigenous GEO Initiative: Documenting Indigenous Place-based Cultural Heritage for Climate Change Research
- 11:00 a.m. Michael Price, Academic Dean, White Earth Tribal & Community College, Mahnomon, Minnesota
Manoomin: How Tribal Colleges Make Connections between Traditional Ecological Knowledge and Western Academic Knowledge
- 12:00 noon Bruce Martin, PSU Great Lakes Field Officer, The Environment, Culture and Comparative Ways of Knowing and Learning (CIED/ADTED 497A)
Collaborating with Indigenous Communities to Create an Environment for Faculty and Student Development and Institutional Transformation
- 12:30 p.m. Working Lunch: Facilitated discussion groups consider:
What would be needed for Penn State to become an exemplary college destination for students from Indigenous GEO-affiliated tribal colleges?
Activity introduced by Felicia Wilkins Turner, American Indian Leadership Program
- 2:00 p.m. Reports from groups:
Comments by attendees, Douglas Herman, Michael Price, Bruce Martin and a PSU Administrator
- 3:00 p.m. Group discussion
Opportunities for Teaching, Research and Outreach Collaborations Involving the Smithsonian Institution, Penn State, White Earth Tribal and Community College, and other Tribal Institutions
- 4:00 p.m. Adjourn

Endangered Language Fund

The Endangered Language Fund provides grants for language maintenance and linguistic field work. The work most likely to be funded is that which serves both the native community and the field of linguistics. The language involved must be in danger of disappearing within a generation or two. Researchers and language activists from any country are eligible to apply. Awards can be made to institutions.

Deadline: 04/20/2012

Contact:

Address: 300 George Street,
Suite 900
New Haven, CT 06511
U.S.A.

E-mail:
elf@endangeredlanguagefund.org

Web Site: <http://www.endangeredlanguagefund.org>

Program URL: <http://www.endangeredlanguagefund.org/request.php>

Tel: 203-865-6163
Fax: 203-865-8963



Your Questions and Comments Are Welcome!

The ICIK E-Newsletter is published each semester—Fall, Spring, and Summer. If you have questions or comments about this newsletter, or ideas for articles, features, or general information you would like to see in upcoming newsletters, please contact Audrey Maretzki. Questions regarding ICIK may be directed to either Dr. Semali or Dr. Maretzki.



Dr. Ladislaus M. Semali
314 Keller Building
College of Education
The Pennsylvania State University
University Park, PA 16802
Phone: (814) 865-2246
E-mail: lms11@psu.edu



Dr. Audrey N. Maretzki
218 Food Science Building
College of Agricultural Sciences
The Pennsylvania State University
University Park, PA 16802
Phone: (814) 863-4751
E-mail: anm1@psu.edu

SPECIAL NOTE TO CONTRIBUTING AUTHORS:

We encourage and appreciate articles submitted for publication consideration in ICIK E-News. Please note that articles accepted for publication in future issues must have a **clear focus on indigenous knowledge**. Through ICIK E-News, we report on, honor, and celebrate the diversity of “ways of knowing” among indigenous peoples around the world.

We encourage your submissions for future newsletters. **Please Note:** ICIK reserves the right to accept or refuse submissions, and to edit those submissions that are published.

Upcoming Publication and Submission Deadline for ICIK E-News

<u>Publication:</u>	<u>Submissions Due:</u>
Summer 2012	May 15, 2012
Fall 2012	August 15, 2012

Alternative Format

This publication is available in alternative media on request.

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