

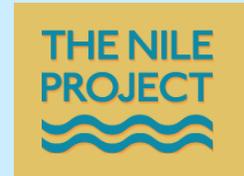
ICIK E-NEWS



Newsletter of the Interinstitutional Consortium for Indigenous Knowledge
Volume 6, Issue 3, Fall 2014



Water &



“Water for Life”

International Decade for Action ‘WATER FOR LIFE’ 2005-2015

The world is waking up to the water and sanitation crisis. At the United Nations Millennium Summit in September 2000, the largest-ever gathering of world leaders adopted the Millennium Declaration; from the Declaration emerged the [Millennium Development Goals](#), an integrated set of time-bound targets for extending the benefits of globalization to the world's poorest citizens. Among them was target 10, to cut in half the proportion of people without sustainable access to safe drinking water. At the Johannesburg World Summit for Sustainable Development, in 2002, this target was expanded to include basic sanitation, and water as a resource was recognized as a critical factor for meeting all the Goals. This sanitation objective is now an integral part of target 10.

Since Johannesburg, further international deliberations on water and sanitation have helped advance cooperation and action in this area. Significant progress has been made since then in providing people with access to clean drinking water and basic sanitation. But a major effort is still required to extend these essential services to those still unserved, the vast majority of whom are poor people.

Given the magnitude of the task, in December 2003, the United Nations General Assembly, in [resolution A/RES/58/217](#), proclaimed the period 2005-2015 International Decade for Action ‘Water for Life’. The decade officially started on World Water Day, March 22, 2005.

The primary goal of the ‘Water for Life’ Decade is to promote efforts to fulfil international commitments made on water and water-related issues by 2015. Focus is on furthering cooperation at all levels, so that the water-related goals of the Millennium Declaration, the Johannesburg Plan of Implementation of the World Summit for Sustainable Development, and Agenda 21 can be achieved.

The challenge of the Decade is to focus attention on action-oriented activities and policies that ensure the long-term sustainable management of water resources, in terms of both quantity and quality, and include measures to improve sanitation. Achieving the goals of the ‘Water for Life’ Decade requires sustained commitment, cooperation and investment on the part of all stakeholders from 2005 to 2015 and far beyond.

The above is excerpted from the UN website on the International Decade for Action ‘Water for Life’ 2005-2015. Given that we are on the threshold of the final year of that decade, it is appropriate that we dedicate this final issue of *ICIK E-News* to ‘water,’ with a special focus on The Nile Project. Read more about the [International Decade for Action ‘Water for Life’ 2005-2015](#).

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Introducing “The Nile Project”

Created by Mina Girgis and Meklit Hadero

Nile Basin Countries: Egypt, Sudan, South Sudan, Eritrea, Ethiopia, Kenya, Uganda, Tanzania, Burundi, Democratic Republic of the Congo, Rwanda



The Nile Project was founded in August 2011 by Egyptian ethnomusicologist Mina Girgis and Ethiopian-American singer Meklit Hadero to address the Nile basin’s cultural and environmental challenges using an innovative approach that combines music, education and an enterprise platform. The Project curates collaborations among musicians from the 11 Nile countries to expose audiences to the cultures of their river neighbors. These musical experiences foster cross-cultural empathy and inspire environmental curiosity to shift the Nile from a divisive geopolitical argument to a uniting East-African conversation.



At a moment when riparian tensions over the proposed Grand Ethiopian Renaissance Dam have captured headlines around the world, The Nile Project offers an innovative model for cross-cultural dialogue and cooperation. The world’s longest river runs through the political boundaries of eleven countries and touches the lives of 300 million people, but over the past century East Africa’s leaders have struggled to find ways to preserve and share this critical resource.

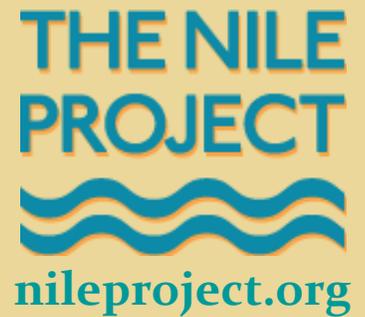
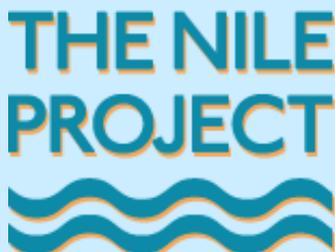


With its power to inspire curiosity, generate empathy, and promote dialogue, music is the Project’s natural starting place. By exposing local audiences to the cultures of their river neighbors, the Project’s music provides a space for them to learn about each other and create a shared Nile identity. Building on this awareness, the Nile Project is developing educational programs, an online dialogue platform, and a Nile Prize to incubate innovative solutions to the region’s cultural and environmental challenges.



Be sure to read about upcoming engagements by The Nile Project at Penn State highlighted on pages 3 and 4 in this issue of ICIK E-News

Visit The Nile Project website.



The Nile Project: Producing Harmony in a Divided Region

In a quiet park in Kampala, Uganda, 14 musicians from seven East African countries sit together under a tree. They’re working on an idea from Ugandan musician Lawrence Okello.

“This is what I would suggest for this piece: That we have a conflict,” Okello says to the group. “And then all of us will keep on adding flavors from different cultures, but maintaining the water that flows.” Did you hear this on NPR this morning?

The musicians speak many languages, which means ideas and instructions have to get translated multiple times. They use different rhythms, even different tonal systems. And they play many instruments: Sudanese harps, Kenyan kettle drums, Ethiopian violins, Burundian thumb pianos, Egyptian flutes.

But under this tree, they’re listening for what’s shared: conflict that resolves into harmony.

This is the Nile Project — an education and development initiative that uses music to help find new ways to share an ancient resource.

Read the full article by Julie Caine, September 14, 2014, on the NPR Music website.



The Nile Project 2015 US Tour

American audiences will experience the Nile and its complexities through a sensory journey guided by some of the region's best musicians. The concert showcases the diversity found in the peoples and cultures of the Nile Basin and promotes a message of cross-cultural cooperation. The Nile Project will engage audiences on its U.S. tour through methods that go beyond traditional entertainment by using its music to raise awareness, inspire change and drive social action. We have created a residency program that curates unique intellectual experiences stimulating new ways of thinking and doing on university campuses and in their surrounding communities.

The Nile Project has designed a series of participatory workshops that explore a variety of cultural, political and environmental issues through a musical lens. Topics revolve around the Nile River, but also provide an opportunity to relate commonalities to your local community. Through our workshops, we aim to place music at the forefront of intellectual activity, highlighting the power of music to catalyze transformational thinking, forge unconventional linkages across campus and beyond and drive meaningful social change. In using music as the starting point for a conversation, we seek to create a space where people who would otherwise not meet come together, where discussions that would normally not occur take place and where ideas that are not usually connected are linked. We hope that in breaking conventional disciplinary barriers, our discussions yield a fresh outlook that results in innovative thinking and new partnerships relevant to the Nile Basin, your local communities and elsewhere.

The Nile Project will significantly increase its exposure in 2015 with a tour through 30 universities in the United States reaching and engaging students, leading academics, the American public and Nile Basin diaspora.

The Nile Project offers the following workshop themes during its 2015 U.S. Tour:

1. Musical Collaboration & Water Cooperation;
2. Imagining the Nile;
3. The Nile & African Identity;
4. Civic Engagement and the Management of Water Resources;
5. School matinee: K-12 student outreach;
6. The role of musicians in social movements: A perspective from Nile Project artists;
7. Women of the Nile: An untapped resource;
8. Finding opportunities in challenges: Crowdsourcing solutions for an environmentally sustainable Nile Basin; and
9. Music master classes.

Read more about the North America 2015 Tours and Workshops [here](#).



Nile Project Engagements Upcoming:



November 19, 2014—Presentation by Arthur Goldschmidt, Professor Emeritus of Mid-East History. **Indigenous Knowledge: The Nile and the Egyptians**, 12:00 noon-1:00 p.m., Foster Auditorium, Paterno Library, Penn State University Park. Co-sponsored by ICIK and the PSU Libraries.

March 1, 2015—Water Symposium, a showcase for faculty and student teams doing academic work around water issues with special consideration given to teams working in the Nile Basin. Organized by Penn State Institutes for Energy and the Environment and Landscape Architecture, 2:00 p.m.—5:00 p.m., HUB Ferguson Auditorium, Penn State University Park.

April 19, 2015—The Nile Project musicians arrive for a week of residency activities.

April 20, 2015—“Musical Collaboration and Water Cooperation”, 7:00 p.m. – 8:30, Performance in Foster Auditorium, Paterno Library, Penn State University Park followed by an informal reception in Mann Assembly Room. Co-sponsored by ICIK, PSU Libraries and The Center for the Performing Arts.



See more Upcoming Nile Project events on page 4.



An Interview with Amy & Medora, Coordinators for The Nile Project's Penn State Visit

By Madeleine Bean

During the week of April 20-24, Penn State will host **The Nile Project**, a collaborative initiative of



Medora Dutton Ebersole and Amy Dupain Vashaw

musicians and innovators from many of the eleven countries in the Nile Basin. The group uses music, workshops, and dialogue to highlight the unique cultural and environmental conflicts impacting the people of the Nile Basin. In doing so, The Nile Project's efforts seek to illuminate wider issues of environmentalism and cultural cooperation. The Center for the Performing Arts is sponsoring The Nile Project's visit to Penn State. I talked to Medora Ebersole and Amy Vashaw, the Center's engagement staff, about the upcoming visit.

Q: How did you first learn about the Nile Project?

Amy: Well, we work with agents to book artists. I was scrolling through The Nile Project agent's roster and was intrigued. I clicked, went to the website and tried to educate myself. We were instantly interested in The Nile Project's mission. We sponsor a small amount of world music at the Center for the Performing Arts, and we were immediately attracted to the unique way The Nile Project represents the voices of their constituent countries and cultures.

Q: What drew you to this project, and why do you think it matters?

Amy: The Center for the Performing Arts was drawn to The Nile Project because they use music as a lens through which to identify the common issues of the Nile Basin in a totally collaborative spirit. They make music with musicians and instruments that are from different Nile Basin countries, that are not familiar with each other, but find common ground on which to make music. Not only can we present artists from around the world, but there are also real educational and advocacy aspects to this project as well.

Q: What are your immediate and long-term expectations for the Nile Project?

Amy: What will go on while The Nile Project is at Penn State is two-pronged. The company itself, the musicians and the founders, will be on campus during the week of April 20-25. We've planned for a ton of activities to take place while they're actually here. They've provided us with a very rich and comprehensive menu of programs they've developed, including many different kinds of workshops. We've distributed that list to all the people and departments we are working with so they can choose what best fit their interests. So that's one prong; involving The Nile Project with the campus and the community.

In building up to their visit in April, we have scheduled a bunch of events at Penn State to highlight The Nile Project's issues. In November, one of the co-founders of the Nile project will be coming to campus for two days. He'll be giving a Distinguished Speaker Series talk discussing The Nile Project and why it matters. We are also working with the Paterno Fellows to help develop a series of courses related to The Nile Project, for example *Gender and Islam*, and the *Literary Landscape*

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Nile Project Engagements Upcoming:



April 22, 2015—**Earth Day Celebration** on the Penn State University Park Campus featuring The Nile Project in collaboration with [Penn State Institutes for Energy and the Environment](#) and the [Sustainability Institute](#), Penn State University Park campus.



April 23, 2015—The Nile Project presents its culminating performance at 7:30 p.m. in the Eisenhower Auditorium, Penn State University Park. Tickets for *The Nile Project* performance can be purchased by [online](#) or by calling (814) 863-0255. ([Read more about this event on page 5.](#))



Photography Exhibit

January 5—May 10, 2015: A photographic exhibit, **Salinization and the Hierakonpolis Temple-Town Site**, will be on view in the Penn State Earth and Mineral Sciences Museum and Art Gallery. Curated by photography professor Katarin Parizek in collaboration with researchers David Gold, Shelton Alexander, Richard Parizek, and Elizabeth Walter, this exhibit is a preview of a larger exhibit slated for 2017 that will explore our relationship to water.



An Interview with Amy and Medora

Continued from page 4.

of North Africa. ICIK is sponsoring a talk on November 19th by Dr. Arthur Goldschmidt, PSU Professor Emeritus of Mid-East History, titled *Indigenous Knowledge: The Nile and the Egyptians*. We're collaborating with the Penn State Institute for Energy and the Environment (PSIEE) and the Landscape Architecture Department on a *Water Symposium* to be held on Sunday, March 1st. It will be a showcase for faculty and student teams doing any kind of work around environmental water issues. At each of its stops, The Nile Project wants to highlight a local water issue, to bring their message closer to home. They're working with universities in the Nile Basin as well, to harness next-generation power of intellectual and entrepreneurial solutions.

Medora: The Nile Project is also working with university students in countries in the Nile Basin, to help facilitate a student-to-student dialogue.

Q: As in students at Penn State talking to students there?

Medora: Exactly, that's really what they want to happen.

Q: Where else will the Nile Project be visiting?

Amy: It's on a huge 2015 U.S. tour, starting in January and ending in May. At most places they're staying for a week. Because there's rich engagement opportunities, they are mostly going to college campuses. [The Nile Project's complete Spring 2015 tour can be found on their website.]

Q: Why do you think music is a particularly effective way of conveying The Nile Project's message?

Amy: Well, music is the universal language. It's such a unifier, and there's an air of celebration in music. If we're gonna focus on urgent problems during the day, at the end of the day we're gonna celebrate!

Medora: Music is optimistic.

Amy: And in cultures other than Western cultures, music is really a part of everyday life and everyone plays an instrument, sings, and dances.

Medora: Music is a shared language. Here, it can be an elite language or part of popular culture. But there, it's an everyday language.

Amy: An indigenous language, you could even say!

Medora: Artists are in the forefront, kind of like beacons. They *know* what is happening in their home-lands. I think it's really great when artists are also advocates. There's a real advocacy component to the Nile Project.

Amy: I think it was ingenious for The Nile Project to use music as the lens through which to communicate their message. It's very effective. The main point is that music is a unifier. Art for art's sake definitely has its place, but we like it when there's a larger message—it gives us an opportunity to engage our entire community in the arts.

Q: How do you expect the Fall ICIK E-Newsletter's focus on The Nile Project to support your efforts?

Amy: Well, any publicity is good publicity, especially when it is targeted to a group of people who care about indigenous knowledge, which is basically what The Nile Project comes down to: using the indigenous knowledge of all the people around the Nile Basin to solve their own issues. So the ICIK newsletter is targeting exactly the right audience.



*The Nile Project
Culminating
Performance*

*Don't miss The Nile
Project Culminating
Performance on
Thursday, April 23, 2015
at 7:30 p.m. in the
Eisenhower Auditorium,
Penn State,
University Park.*

PENN STATE
ARTS TICKET CENTER

*Tickets for this special
performance of The Nile
Project can be purchased
online through the Penn
State Arts Ticket Center
or by calling the
Eisenhower Auditorium
Ticket Center at
1-800-ARTS-TIX or
(814) 863-0255.*

Father and Daughter Conduct Hydrogeologic Research in the Valley of the Kings

By Dr. Richard R. Parizek, Professor Emeritus of Geology and Geo-Environmental Engineering, PSU College of Earth and Mineral Sciences

During my daughter Katarin's travels along the Nile Valley in 1988, she visited tombs in the Valley of the Kings and Queens at Luxor and many other antiquity sites. She traveled with her friend, an Egyptian exchange student who had enrolled in the State College Area School District. During their travels, Katarin observed that many tomb entrances and some passages in the Valley of Kings and Queens were located on, or aligned along, zones of fracture concentration.



Richard Parizek and Katarin Parizek

These fractures were similar to geological structures she had seen when she helped me explore for groundwater, initially for Penn State and the Borough of State College Water Authority and subsequently, elsewhere in Pennsylvania and throughout the world. This new groundwater prospecting method had been demonstrated and described in a 1964 publication co-authored by Dr. L.H. Lattman, a former PSU geology faculty member with whom I collaborated. Katarin hypothesized in 1988 that ancient tomb builders recognized and selected these geological structures as favorable sites to locate and excavate Egyptian tombs. If her hypothesis could be verified, this tool could be used to look for undiscovered tombs of the Pharaohs.



Katarin A. Parizek

My first visit to Egypt was in 1998. During that visit our team presented its professional qualifications and a study proposal to the Ministry of Antiquities and the Supreme Council of Antiquities to undertake geo-archaeological field investigations at the Hierakonpolis Temple-Town Site near Edfu. Drs. Shelton S. Alexander and David P. Gold were on our team together with Dr. Elizabeth Walters, Penn State Art Historian and the leader of what has become the Penn State Hierakonpolis Temple-Town Mission. My daughter, Katarin is an active member of this Mission. Together, our group has worked at the Unfinished Aswan Obelisk Site and at the Ancient "Fort" south of the Temple-Town Site.



Katarin continually urged me to revisit the Valley of the Kings with her, but our next joint visit was delayed until 2001. Formal field work followed in 2002 to test Katarin's original hypothesis.

Nearly 13 years had elapsed since her first visit when observations had been made regarding the tomb entrances at the Valley of the Kings and Queens.

I continue to serve on Katarin's project as her field assistant. We map geological structures within tombs and the desert above and Katarin creates detailed photographic images of tomb interiors, documenting damage to decorations



Richard Parizek working on site

Waters of the Nile

Nile River Basin Country Becomes Project Site for Penn State Smeal MBA Students



A team of Penn State Smeal MBA students spent their final semester in the program working with entrepreneur Sisay Shimelis on an aspect of his ambitious project to improve the quality of life for Ethiopians.

Shimelis, the founder, president, and CEO of NutrAfrica, seeks to lower the cost of the food staple, injera, for Ethiopians while introducing production methods that are both socially and environmentally sustainable. Injera is a sourdough flatbread-like food made from the East African grain teff, and it makes up a significant portion of many Ethiopians' caloric consumption. Traditionally, Ethiopian women and children cook the food over an open fire, which leads to respiratory problems—and is also causing deforestation in the region.

A key part of Shimelis' overall business strategy is to export injera to the American market—and that's where the MBA students come in. As part of the spring 2014 Applied Professional Experience (APEX), second-year MBA students Peter Chamberlain, Elizabeth Combs, Michele Harrison, Syed Khazi and Ian McSpadden worked as a team to create a strategy for expanding injera's presence in the American market.

Read the [full article](#) on the Penn State News website.

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Father and Daughter Conduct Hydrogeologic Research in the Valley of the Kings

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caused by water that seeps along fractures during major storm events. By 2012, 30 of 33 tombs we investigated were shown to be located on zones of fracture concentration, some for their entire length as Katarin had postulated. Currently we are considering demonstration studies to seal water-transmitting fractures.

Katarin, together with other Penn State faculty members, students and Egyptian colleagues have conducted hydrogeologic investigations at the Temple-Town Site, and the Ancient mudbrick "Fort" located in the desert one kilometer to the south of the Temple-Town Site. It soon became apparent that rising water levels and the growing number of surface pools at the Temple-Town Site were caused by irrigation water from the Wadi El-Sayáada Land Reclamation Project and not the distant Aswan High Dam, irrigated cropland nearby or sewage water, as some others had assumed. The land reclamation project had destroyed a city and hundreds of mudbrick homes in nearby villages as well as damaging previously fertile farmland. Katarin's dramatic photographs reveal the scope of destruction.

My daughter and I, along with Drs. S.S. Alexander, D.P. Gold, and Egyptian colleagues undertook similar geophysical and hydrogeologic investigations at the Unfinished Obelisk Quarry at Aswan, where we confirmed the presence of a canal used to barge stone blocks and obelisks to the Nile. We also documented artifact damage caused by rising water and proposed methods to control water at the Aswan Quarry, the Ancient "Fort" and the Temple-Town site. Similar hydrogeologic studies were undertaken with S.S. Alexander and other US and Egyptian scientists at the Osireion and Seti-1 temples, at Abydos, where I served as Mission Head.

At age 80, Richard Parizek recently retired as an Emeritus Professor of Geology and Geo-Environmental Engineering after teaching and conducting research for 53 years in Penn State's College of Earth and Mineral Sciences. Dr. Parizek has advised 100+ M.S. and Ph.D. candidates who are now professional hydrogeologists working around the world and employing innovative techniques learned from their mentor and friend.



Waters of the Nile

Water 'Literacy'

Water is an extraordinary thing: it is the key to the chemistry of life. If it wasn't for water's unique properties, such as its abilities to dissolve other substances, life could not exist on our planet. Indeed, life was thought to have started in water and currently more than half of the plant and animal species live in water. On land, plants and animals need water for their existence, as the ability of water to disassemble and rearrange other molecules is essential to all daily actions. As humans, our bodies consist of about 80% water when we are babies, to around 60% - 65% as adults. The human brain is about 85% water. Even though this simple polar molecule is one of the most prized possessions in the universe, what do people know about water? What does it mean to be water literate? In this paper, we explore what it means to be water literate in the fields of engineering and in science education. We will compare this theoretical understanding with what engineering and science education students actually know about water. We finish with recommendations to increase student's literacy in water.

Sammel, A. and McMartin, D. (2014) "Teaching and Knowing Beyond the Water Cycle: What Does It Mean to Be Water Literate?" *Creative Education*, 5, 835-848. doi: 10.4236/ce.2014.510097. Download the [pdf version](#) to read the full article.

Read [other articles on 'water'](#) in *Creative Education*.

Research into Preserving Egypt's Monuments and Antiquities Provides Insights into Egypt's Future Sustainability

By Katarin A. Parizek

Credit for photographs and copyright reserved, 2014

Special thanks to co-PI's Drs. Elizabeth J. Walters, David P. Gold, Shelton S. Alexander, Richard R. Parizek, Amr El-Gohary, Recep Cakir, numerous graduate students and all other members of the Penn State Hierakonpolis team who have worked tirelessly in the field together.

Also special thanks to the Egyptian Ministry of Antiquities for granting our group permission to continue our research and to the villagers who have worked alongside our group, opening their homes to us and telling us their story.

Egypt is experiencing a population explosion, with nearly 82 million people living and working in the Nile Valley. Many village families consist of up to four wives and numerous children. The Nile is the only significant water resource to sustain Egypt's population growth, development and the livelihood of its population. For thousands of years, annual flooding had cleansed the Nile and deposited fertile soils, creating productive farmland. In 1902, a low Aswan Dam was built to control flooding and for irrigation. It was raised higher in 1912 and again in 1934. In 1970, the Aswan High Dam was completed up stream to prevent annual flooding. The original plan was for the Aswan High Dam to stabilize the water flow, prevent annual flooding, provide needed electricity, allow for year round agriculture and provide land for housing and more farming. Planners irrigated in the desert wadis adjacent to the Nile valley and built villages in the desert up and down the Nile to create more farmland for the growing population. The Aswan High Dam resulted in the creation of Lake Nasser and the loss of 10 billion cubic meters of water annually through seepage and lake evaporation.



Wadi El-Saya'ada Land Reclamation Project

The Wadi El-Saya'ada Land Reclamation Project presented here is just one example of the situation occurring in Egypt where rising water levels and accumulation of evaporative salts continue to damage and destroy archeological treasures, farmland and buildings along the Nile and its delta and oases.



Five pump stations lift water 50 meters above the Nile to the Wadi El-Saya'ada Land Reclamation Project.

In this example, The Egyptian Ministry of Agriculture and Land Reclamation worked with Italian technicians in a cooperative Wadi El-Saya'ada Land Reclamation Project. More than \$40 million US dollars was spent to build five pumping stations to lift water 50 meters above the Nile to a site just north of Edfu. Drainage problems were complicated by concrete-lined supply canals, unlined drainage canals, sand and gravelly soils underlain by poorly permeable bedrock. Amr Village was created in the reclaimed desert land to house workers and their

families. The lack of geologic understanding, inadequate drainage, along with the leaching of salts from the desert soils and the evaporative salts from the Nile irrigation waters, created extensive damage to croplands and new buildings. Ancient farmlands, mud brick homes and archeological sites in the Nile Valley were also damaged.



Unlined drainage canals, sandy gravelly soils underlined by poorly permeable bedrock enhanced drainage problems.



From 1998 to 2002, more than half of the planned 11,736 hectare Wadi El-Saya'ada Reclamation Project went under cultivation up to 50 meters above the Nile. At the Hierakonpolis Temple-Town site, the Namer Palette (1897) and the golden head of Horus were found, linking the site to very early Egyptian civilization. Recent pottery finds by Professor Walters date this site, containing a main mound and smaller western and eastern mounds, to at least 4000 BCE. The number of surface pools within the Hierakonpolis Temple-Town site increased from three in 1999 to more than 30 in 2005. Passive drains and flowing artesian wells could control rising groundwater and capillary levels at this important site if drainage canals were deepened and widened. An entirely new drainage system is needed to protect archeological sites in the Nile Valley and

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Research into Preserving Egypt's Monuments and Antiquities

Continued from page 8.



fertile land farmed for thousands of years, together with cities and villages along the Nile. Wet spots have been growing rapidly at the nearby World Heritage Site, an ancient mudbrick "Fort" located on the lowest Nile terrace 1.0 km south of the Hierakonpolis Temple Town archeological research site. This massive structure is believed to date from the Second Dynasty in Wadi Abu-Sufian.

The flood plain and terraces farmed for millennia are now salinized and hundreds of mudbrick homes destroyed, e.g., El Ghaba, Wadi Saya'ada and el Qibli. Parcels within Wadi El-Saya'ada that were reclaimed between 2001 and 2010 are now idle.

Portions of this new settlement are flooded, salted and abandoned. These

Ancient mudbrick "Fort" - Wet spots now appear on the first and second Nile terraces where the "Fort" is located. These water spots have grown in number and size with the expansion of the Wadi El-Saya'ada Project. A cutoff wall and passive French drain may be adequate to control rising groundwater.

observations are regional examples. Similar examples of land development projects are cropping up elsewhere along the Nile Valley. Traditional crops and flood irrigation farming practices will have to change to sustain the rising population and limited existing water resources. As more wadi and other desert lands are cultivated, flood irrigation will cause ground water levels to rise. Many existing tile drains and canals are inadequate to handle increased volumes of irrigation

return flows and waste waters. Drainage problems are further enhanced along the Nile flood plain where irrigation water becomes pressurized as it migrates from uplands towards the Nile.



Deep gravel-filled, multi-level drains were constructed around important antiquities on the West Bank, Luxor, similar to the drains created earlier for Luxor Temple and Karnak on the East Bank. Water is pumped from cisterns and disposed of in drainage canals at the Nile. Deep-multilevel drains collect shallow groundwater and reduce artesian heads. These costly water-control projects with multiple level drains and pumping stations are now found at Karnak, Luxor and the West Bank temples, and are being considered for Esna Temple, Kom Ombo and other temples. Similar drainage projects are currently being constructed for the Edfu Temple and the Osireion.



Located on and just below the first Nile terrace immediately opposite Wadi El-Saya'ada Project, hundreds of mudbrick buildings have been and are being destroyed by rising water levels.

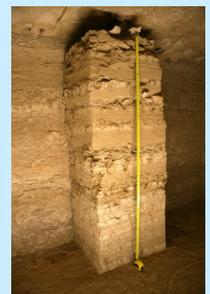
engineers, educators, community planners, Ministries of Agriculture, Irrigation, Geology and Mineral Resources, Culture, Antiquities, and others for mitigating old and planning new projects. Detailed hydrogeologic sight characterizations are critical before creating science-based desert land reclamation projects (Planning, Designing, Construction and Operation).

The Egyptian Government and foreign leaders should not be in denial of unsustainable land use, poor planning resulting in urban sprawl on precious farmland, salinization of valuable ancient crop lands, excessive water use, destruction of villages containing mudbrick homes, archeological World Heritage treasures and other water issues along the Egyptian Nile. Egyptians are dependent on the Nile and they cannot survive without its waters. Global climate change may result in a drier future within the Nile Basin. Conflicts among neighboring nations due to the need to share the Nile resources threaten both Egypt's and neighboring countries' safety and stability.



Salinized fields were farmed for generations using flood irrigation methods. Field tiles and the existing drainage canal no longer provide adequate drainage for irrigation water and underlying rising artesian heads related to the Wadi El Saya'ada Land Reclamation Project.

Without adequate science-based, sight-based considerations, Egypt's rate of population growth cannot be sustained without imported water, but at what cost? There is a need for cooperation and communication among politicians, hydrogeologists, soil scientists, irrigation and drainage



Many tombs in the Valley of the Kings have been badly damaged by flood waters that have flooded into tomb entrances that were left exposed after having been discovered and plundered by robbers and Egyptologists.

The flood deposits record nearly 31 flood events.

Why Was Vivek Malnourished?

The economy of the state where he lives has for years grown faster than almost any other. His mother said she fed him as much as he would eat and took him four times to doctors, who diagnosed malnutrition. Just before Vivek was born in this green landscape of small plots and grazing water buffalo near the Nepali border, the family even got electricity.

So why was Vivek malnourished?

It is a question being asked about children across India, where a long economic boom has done little to reduce the vast number of children who are malnourished and stunted, leaving them with mental and physical deficits that will haunt them their entire lives. Now, an emerging body of scientific studies suggest that Vivek and many of the 162 million children under the age of 5 in the world who are malnourished are suffering less a lack of food than poor sanitation.

New research on malnutrition, which leads to childhood stunting, suggests that a root cause may be an abundance of human waste polluting soil and water, rather than a scarcity of food.

Like almost everyone else in their village, Vivek and his family have no toilet, and the district where they live has the highest concentration of people who defecate outdoors. As a result, children are exposed to a bacterial brew that often sickens them, leaving them unable to attain a healthy body weight no matter how much food they eat.

Two years ago, Unicef, the World Health Organization and the World Bank released a [major report on child malnutrition](#) that focused entirely on a lack of food. Sanitation was not mentioned. Now, Unicef officials and those from other major charitable organizations said in interviews that they believe that poor sanitation may cause more than half of the world's stunting problems.

This research has quietly swept through many of the world's nutrition and donor organizations in part because it resolves a great mystery: Why are Indian children so much more malnourished than their poorer counterparts in sub-Saharan Africa?

The above is an excerpt from a *New York Times* article (July 13, 2014 by Gardiner Harris) on the right to safe water and sanitation. Read the full article, "[Poor Sanitation in India May Afflict Well-Fed Children with Malnutrition.](#)"

The Human Right to Water

One of the biggest threats to economic and social development is that the world's freshwater supplies are rapidly becoming scarce and polluted. A new set of actors are now engaging in the [global development](#) arena to define and write the rules of [access to water](#).

It is alarming to see that the human right to water and [sanitation](#) continues to be marginalised in UN policy discussions. The exclusion of this right to water in the most recent draft of the [sustainable development goals](#) reveals policy more conducive to promoting water security for economic growth than ensuring the preservation of watersheds and the equitable distribution of scarce water supplies.

The above is an excerpt from, "[Is the UN turning its back on the human right to water?](#)" (posted by [Meera Karunanathan](#) on June 9, 2014).



Water Woes of the Wealthy—Drought and Water Shortage in Sao Paulo, Brazil



Drought plagues Brazil's richest metropolis. Agricultural losses are no longer the most visible effect of the drought plaguing Brazil's most developed region. Now the energy crisis and the threat of water shortages in the city of São Paulo are painful reminders of just how dependent Brazilians are on regular rainfall. Read the full article on the [Inter Press Service News Agency](#).



São Paulo may run out of water within a month. Latin America's biggest metropolis may run out of water next month. For some of the 20 million residents across São Paulo, the nation's financial hub, taps are already running dry. The four-lake complex that supplies half of São Paulo has already been drained of 96 percent of its water capacity amid Brazil's worst drought in eight decades. Read the full article on [Bloomberg News](#).



Achieving Water Security in Senegal: Rural and Urban Water Access and Sanitation Challenges - Poster by Arianna De Reus

Achieving Water Security in Senegal: Rural and Urban Water Access and Sanitation Challenges

Introduction & Purpose

- A fundamental aspect of national security, water security affects the stability and development of every nation.
- Negative effects of climate change and population growth such as desertification and urbanization are increasing water stress on African nations, putting fragile states with young populations at risk for conflict.
- The seventh Millennium Development Goal (MDG) is to halve the global population without sustainable access to safe drinking water and basic sanitation by 2015.
- Senegal, considered one of the most stable nations in Africa, is on track to reach the water access target of MDG 7 but will not achieve the sanitation aspect of this goal by 2015.
- There is a stark contrast in water access and sanitation between rural and urban regions of Senegal.
- The purpose of this study is to further understand the daily water access and sanitation challenges that affect people in Senegal.
- Understanding water security concerns for rural and urban residents of Senegal will enable government institutions, NGOs and companies to better address these issues in the future, fostering stability.



Urban Access: Free Water Pump



Urban Access: Privately Owned Water Tap

Methodology

- 13-item questionnaire, 60 people, 18 years of age and older
- Questions addressed household water sanitation and access issues
- Stratified random sample
- 30 people in Mermoz, a suburb in the capital city of Dakar
- 30 people in the rural villages of Toubacouta, Dianglé and Tambanding
- Door-to-door recruitment
- Qualitative data analysis- coded participant responses, identified themes, where each quote and corresponding alpha-numeric code was recorded
- Quantitative data- analyzed with simple frequencies

Arianna De Reus, nominated by Dr. Ted Alter
College of Agricultural Sciences
Community, Environment, and Development
The Pennsylvania State University

Research Funded by the Applied Research Lab, PSU
IRB Approval Received: 4/4/14 Reference Number: 45384



Water Council Meeting in Tambanding Village

Water Shortages Affect Urban Life

"It makes me angry. Everything is difficult such as cooking, cleaning, and showering."

Findings & Conclusion

Urban

- Frequent water cuts
- Majority has sufficient water in homes, stores extra water, buys mineral water during shortages
- Majority pays for water from company Sénégalaise Des Eaux
- Majority believes that water is sanitary
- Nearly 1/3 believe that water access will not be an issue in the next 10 years

Rural

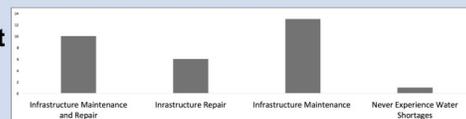
- Majority does not have enough water every day
- Wells or public water taps
- 1/3 take 30 minutes/day or more to obtain water
- Nearly 1/3 never experience water shortages (wells)
- Majority uses bleach to purify water and pays a water council
- Majority believes that water access will be an issue in the next 10 years (population growth)

- Water shortage issues:** hygiene, inconvenience, cooking, taking care of children, washing before prayers, construction

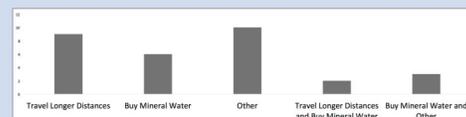
Water Shortages Affect Rural Life

"Without water, life is not possible. When we don't have water, we have all the problems of the world."

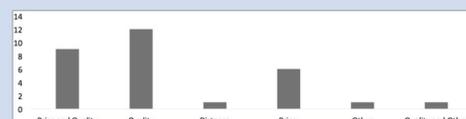
Urban Survey Results (n=30)



Causes of Water Shortages



Water Access During a Shortage



Water Access Challenges

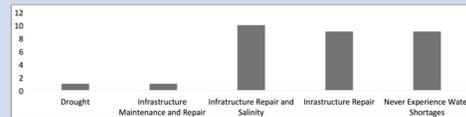


Rural Access: Community Water Tower

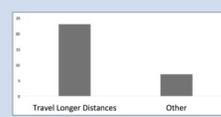


Rural Access: Tambanding Village Well

Rural Survey Results (n=30)



Causes of Water Shortages



Water Access During a Shortage



Water Access Challenges



Africana Research Center Undergraduate Research Exhibition

On October 4, 2014, the Penn State Africana Research Center hosted an Undergraduate Research Exhibition in recognition of undergraduate students who have conducted outstanding research on issues affecting the African Diaspora. Two of the ARC exhibition presenters are well known by ICIK. Arianna De Reus co-presented an ICIK seminar with her mother, Dr. Lee Ann De Reus, and Kira Hydock received a 2014 M.G. Whiting Student Indigenous Knowledge Research Award. Arianna, whose poster appears above, received the 2nd place award in the African Studies student research event on *"Achieving Water Security in Senegal."* Kira will be presenting the ICIK seminar on December 3rd.

Congratulations to both Arianna and Kira.



UNESCO Nile River Basin Projects & Resources

Networking on the Nile—Written by [Jan Luijendijk](#) & [Carel Keuls](#), July 25, 2013

The Nile River is the longest in the world. Since South Sudan gained independence in July 2011, the Nile has been shared by 11 countries. It is one of the most complex and sensitive systems in the world, not only hydrologically speaking but also in terms of the diversity of the countries it crosses, with their mosaic of cultural, linguistic, religious and historical backgrounds. It is no wonder that cooperation among Nile Basin countries has tended to be laborious. After many abortive attempts, a breakthrough came in 1999 when the riparian countries agreed to form a transitional mechanism for cooperation, the Nile Basin Initiative. Read more at: <http://www.unesco-ihe.org/stories/networking-nile>.

The FRIEND (Flow Regimes from International and Experimental Network Data)

This project was first established by UNESCO as part of the [International Hydrogeological Programme](#) (IHP). The FRIEND/Nile project is a member of the Global FRIEND family, and is a cooperative research project in the field of water resources management in the Nile basin given the complex hydro-politics and conflict situation. It was initiated by UNESCO in March 1996. The project aims at creating a better understanding and quantification of the river Nile system to enhance the management of the Nile water resources. This is also done to improve the planning of water resources projects in the Nile Basin countries.

Blue Nile

The overall scientific objective of the [Blue Nile](#) research project is to quantify the positive and negative environmental as well as socio-economic impacts of improved land management practices, assess to what extent positive externalities between up-and downstream areas exist and whether these can increase the willingness to invest in sustainable practices and catchment-wide solidarities, and thus form the basis for sustainable integrated river basin management. The development objective of the research is to contribute to achieving food security and poverty eradication of local communities with positive impacts for downstream users and for the environment. The collaborative objective is to enhance collaboration between Dutch, Ethiopian and Sudanese knowledge institutes concerning hydrology and river basin management, as well as to strengthen the mutual understanding and solidarity between the countries riparian to the Blue Nile basin.

UNESCO Water Website

Freshwater is the most important resource for mankind, cross-cutting all social, economic and environmental activities. It is a condition for all life on our planet, an enabling or limiting factor for any social and technological development, a possible source of welfare or misery, cooperation or conflict.

To achieve water security, we must protect vulnerable water systems, mitigate the impacts of water-related hazards such as floods and droughts, safeguard access to water functions and services and manage water resources in an integrated and equitable manner.

UNESCO works to build the scientific knowledge base to help countries manage their water resources in a sustainable way through the International Hydrological Programme, through leading the UN-wide World Water Development Report, through the UNESCO-IHE Institute for Water Education in Delft in the Netherlands, through over 20 affiliated research centres on water around the world and through a series of water-related Chairs.

Read more on the [UNESCO water website](#).



UNESCO World Water Assessment Program

Hosted and led by UNESCO, the United Nations World Water Assessment Programme (WWAP) coordinates the work of 28 UN-Water members and partners in the World Water Development Report (WWDR).

This key UN Water report is an annual review providing an authoritative picture of the state, use and management of the world's freshwater resources. In addition to coordinating this significant UN report, WWAP monitors freshwater issues in order to provide recommendations, develop case studies, enhance assessment capacity at a national level and inform the decision-making process.

WWAP seeks to equip water managers and key decision-makers with the information, data, tools and skills necessary to enable them to effectively participate in the development of policies.

Read more about [WWAP](#) on the UNESCO website.





The Keepers of the Water movement was born in Canada during the first Keepers of the Water Gathering in Liidlii Kui, Denendeh/Fort Simpson, NWT, held on September 7, 2006. This Gathering was called because the people of the northern Mackenzie River Basin were becoming alarmed with reports of increased turbidity and toxicity, and decreased volume of water in their watershed. What was happening to the water and the ecosystems that relied upon it? Meeting on the shores of the great Deh Cho (Mackenzie River), a gathering of Elders from the north created the Keepers of the Water Declaration:

Water is a sacred gift, an essential element that sustains and connects all life. It is not a commodity to be bought or sold. All people share an obligation to cooperate to ensure that water in all of its forms is protected and conserved with regard to the needs of all living things today and for future generations tomorrow.

- Keepers of the Water Declaration, Sept. 7th, 2006

Read the [full description](#) of The Keepers of the Water.

On June 28th, 2014, over 700 people gathered for the 5th and final Athabasca region Healing Walk. The walk sent a clear message that Indigenous Peoples from across Turtle Island are united to protect the land, water, air, and all living beings from the destruction of the tar sands and its pipelines. [#HealingWalk](#) [#IdleNoMore](#)

WATCH THE VIDEOS [HERE](#) and at:
[Taz Bouchier](#) / [Kevin Henry](#) / [Nitanis Desjarlais](#) / [Bryan Parras](#)

Privatization of Water

By Dr. Jasia (Jayne) Steinmetz, RD, CD

As we know, water is a global concern. Increased privatization is happening in the U.S. and in other countries, please note in the article below how the poor financial standing of nations and local communities jeopardize water as a right and water as part of the commons.

In Wisconsin, we have had recent issues with the rapid growth of frac sand mining and little consideration for the impact of this industry that came in so quickly that local governments did not have the knowledge to have strong regulatory oversight. The same is true for the increased dairy CAFOs that have increased. Private wells have been compromised both in quantity and quality. The state legislation has tried to implement more favorable laws for high capacity well approval and so far this has been defeated but not without quick reaction from one of our legislators. I hope we can share stories and effective strategies as we foster community awareness about our water.

Dr. Jasia (Jayne) Steinmetz, RD, CD, is a professor of Nutritional Science and Epidemiology, Director of the Didactic Program in Dietetics, and Coordinator of the online graduate program-Nutritional Science-Community Nutrition with emphasis in Sustainable Food Systems at the University of Wisconsin-Stevens Point.



Other Important Organizations that Advance the "Water Cause"

[Polaris Institute](#)



[The Bioneers](#)



[Defenders of the Land](#)



[Black Mesa Water Coalition](#)



[Global Justice Ecology Project](#)



“If You Think the Water Crisis Can’t Get Worse....”

California's Central Valley isn't the only place in the U.S. where groundwater supplies are declining. Aquifers in the Colorado River Basin and the southern Great Plains also suffer severe depletion.

Studies show that about [half the groundwater depletion nationwide is from irrigation](#). Agriculture is the [leading use of water in the U.S. and around the world](#), and globally irrigated farming takes more than 60 percent of the available freshwater.

The [Colorado River Basin](#), which supplies water to 40 million people in seven states, is losing water at dramatic rates, and most of the losses are groundwater. A new satellite study from the University of California, Irvine and NASA indicates that the Colorado River Basin lost 65 cubic kilometers (15.6 cubic miles) of water from 2004 to 2013. That is twice the amount stored in Lake Mead, the [largest reservoir in the U.S.](#), which can hold two years' worth of Colorado River runoff. [As Jay Famiglietti, a NASA scientist and study co-author wrote here](#), groundwater made up 75 percent of the water lost in the basin.

Farther east, the Ogallala Aquifer under the High Plains is also shrinking because of [too much demand](#). When the [Dust Bowl](#) overtook the Great Plains in the 1930s, the Ogallala had been discovered only recently, and for the most part it wasn't tapped then to help ease the drought. But large-scale [center-pivot irrigation](#) transformed crop production on the plains after World War II, allowing water-thirsty crops like corn and alfalfa for feeding livestock.

But [severe drought threatens the southern plains again](#), and water is being unsustainably drawn from the southern Ogallala Aquifer. The northern Ogallala, found near the surface in Nebraska, is replenished by surface runoff from rivers originating in the Rockies. But farther south in Texas and New Mexico, water lies hundreds of feet below the surface, and does not recharge. [Sandra Postel wrote here last month that the Ogallala Aquifer water level in the Texas Panhandle has dropped by up to 15 feet in the past decade, with more than three-quarters of that loss having come during the drought of the past five years. A recent Kansas State University study said that if farmers in Kansas keep irrigating at present rates, 69 percent of the Ogallala Aquifer will be gone in 50 years.](#)

The above is an excerpt from a National Geographic article (August 19, 2014, by Dennis Dimick. Read the full article, [“If You Think the Water Crisis Can't Get Worse. Wait Until the Aquifers Are Drained.”](#)



Water Scarcity— The US Connection

By Shannyn Snyder

“It seems impossible that a powerful river, like the Colorado River, is beginning to run dry in places. It seems farfetched that a huge body of water like Lake Mead in Arizona might become obsolete, but these and other dramatic changes are facing the United States. Some of our local neighbors are quickly finding it easier to understand the problems facing the driest and poorest geographic areas of the third world.

Some researchers claim that Lake Mead, which currently supplies water to 22 million people, may be [dry by 2021](#). Water scarcity is not just an issue for those who “never had.” It is a problem that faces people where water seemed abundant. Pollution, demand and other factors are ushering in these new problems.

Read more on [The Water Project website](#).

“Thirst Turns to Desperation in Rural California”

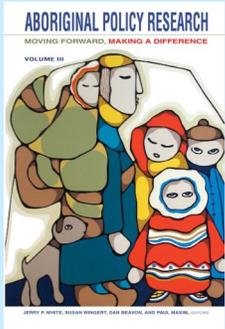


Now in its third year, the state's record-breaking drought is being felt in many ways: vanishing lakes and rivers, lost agricultural jobs, fallowed farmland, rising water bills, suburban yards gone brown. But nowhere is the situation as dire as in East Porterville, a small rural community in Tulare County where life's daily routines have been completely upended by the drying of wells and, in turn, the disappearance of tap water.

“We will give people water as long as we have it, but the truth is, we don't really know how long that will be,” said Andrew Lockman, who leads the Tulare County Office of Emergency Services. “We can't offer anyone a long-term solution right now. There is a massive gap between need and resources to deal with it.”

Excerpted from “Thirst Turns to Desperation in Rural California,” by Jennifer Medina. Read *The New York Times* complete article [here](#).

A Glass Half Empty: Drinking Water in First Nations Communities



Water is an essential part of life, especially for First Nations citizens as it contributes not only to their physical survival but their cultural survival as well. Virtually all rights of Aboriginal peoples depend on a viable and sufficient quantity and quality of water. For example, water is essential to the Aboriginal rights to fish, hunt, and trap. Water is also essential as a means of transportation for many Aboriginal people. In fact, the absolute necessity of water to the lives of Aboriginal people has made it a significant part of their spiritual and cultural existence as well. It is for these main reasons that many Aboriginal leaders advocate the recognition of an Aboriginal right to govern this resource within their traditional territories.

All communities rely on sources of potable water for drinking and household use. Native communities that manage their own water systems may face specific problems, as alternative sources of potable water may not be available. The production and delivery of potable water is often taken for granted until problems occur, sometimes with tragic consequences. After incidents in Walkerton, Ontario, in 2000, North Battleford, Saskatchewan, in 2001, and more recently in the First Nations community of Kashechewan, Ontario, in 2005, improving the safety of drinking water has become a priority in Canada, especially in First Nation communities.

Providing safe drinking water involves complex technical, human, financial, and regulatory factors. In First Nations communities, the relationship between the federal government and First Nations, and the unique situation of each First Nation add to this complexity.

Above is an excerpt from the article, "A Glass Half Empty: Drinking Water in First Nations Communities," by Sarah N. Morales, in Volume III of *Aboriginal Policy Research*. The full series of books is available [online](#).

Call for Abstracts - Workshop on "Epistemologies of Water in Asia" December 13-14, 2014, Heidelberg, Germany

All over Asia, water is subject to a great variety of knowledge systems and practices. Some of these appear to be linked to particular spaces - when associated with specific local cultures or religions, while others are structured by functional and symbolic differentiations, like expert, political or sacred knowledge. This workshop is focused on attempts to trace the circulation and transformation of environmental knowledge fragments and practices across the boundaries of diverse knowledge systems. We would like to examine how varied forms of knowledge pertaining to water flow encounter and entangle with each other. This also directly questions the epistemological status of water as a mere resource. Particularly in Asia, well-tested practices surrounding water and ice are often inseparable from ritual or cosmological symbolism and performance. Therefore, we should not assume that the latter necessarily conflict with "objective" understandings of water and glaciers. Hence, this workshop focuses, instead, on the nodes through which certain knowledge items, "facts," and practices travel across cultural boundaries, thereby creating a transcultural network of differentially connected meanings.

This call is primarily directed at doctoral students, postdocs and early career researchers. We invite posters and papers discussing ongoing research related to but not limited to:

- *Interaction between expert and local knowledge of water
- *The sacredness of rivers and glaciers
- *The role of knowledge in water conservation
- *Ethnology of knowledge practitioners
- *Hydropower between the local and the global
- *Politics of water knowledge
- *Natural hazards and risk reduction in the context of water
- *Anthropocene framing of Himalayan water systems

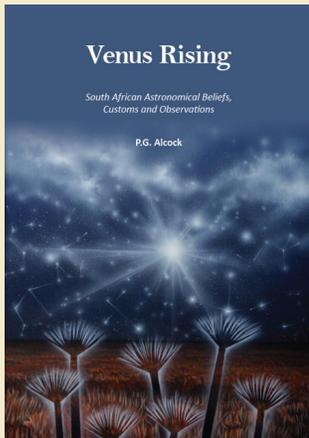
The workshop is aimed at fostering interdisciplinary exchange in order to facilitate collaboration between researchers from diverse disciplines and locations. Our objective is to keep the workshop as diverse as possible. We hope to initiate productive research exchanges, with the possibility of working towards collaborative research proposals. Therefore the workshop will focus on discussions of potential research directions, using paper presentations as a springboard. Participants are encouraged to prepare posters where possible.

The two-day workshop is organized by the Interdisciplinary Research Group "Waterscapes," with the support of the Cluster of Excellence: "Asia & Europe in a Global Context" at Heidelberg University, Germany. Please send in a short CV and an abstract of your poster or presentation latest by 27th October 2014 to Dr. Ravi Baghel <baghel@uni-heidelberg.de>. Financial support for travel and accommodation is available, please mention if you require such support.

If you wish to submit an abstract, please contact Dr. Ravi Baghel to determine if your submission will be accepted after the stated deadline of 27th October 2014.

Book Highlights

Venus Rising: South African Astronomical Beliefs, Customs and Observations

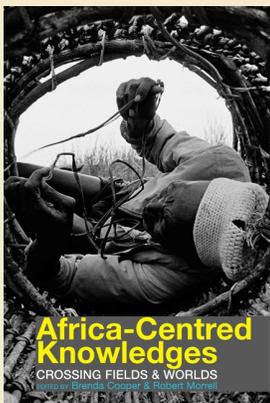


Venus Rising: South African Astronomical Beliefs, Customs and Observations, by Peter Alcock, Ph.D., examines traditional South African celestial knowledge, ranging from the Venda in the north to the /Xam San (Bushman) in the south. Also considered are eclipses, comets and meteors. Likewise discussed are place names, stories, poetry and riddles as well as other linguistic expressions which are linked to the heavens. The book, the first of its kind in this country, is a beginning and not an end, given that there is still more information to be collected in the vastness of South Africa's cultural heritage. Readers, reinforced with information contained in this book, are invited to scan the night skies from a truly South African perspective.

You can access the book [online](#), where you can read and print out the book, as well as search the text using keywords of your choosing.

Africa-Centred Knowledges - Crossing Fields and Worlds

Edited by Brenda Cooper & Robert Morrell



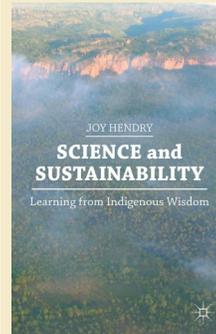
Knowledge production is a highly political and politicised practice. This book questions the way in which knowledge of and about Africa is produced and how this influences development policy and practice.

Rebutting both Euro- and Afrocentric production of knowledge, this collection proposes a multiple, global and dynamic Africa-centredness in which scholars use whatever concepts and research tools are most appropriate to the different African contexts in which they work. In the first part of the book key conceptual themes are raised and the epistemological foundations are laid through questions of gender, literature and popular music. Contributors in the second part apply and test these tools and concepts, examining the pressures on doctoral students in a South African university, the crisis in knowledge about declining marine fish populations, perplexities around why certain ICT provisions fail, or how some Zimbabwean students, despite being beset by poverty, succeed. The light thrown on the mechanics of how knowledge comes into being, and in whose interests, illuminates one of the key issues in African Studies.

Brenda Cooper is an Honorary Research Associate at the University of Manchester. She was for many years the Director of the Centre for African Studies and a Professor in the English department at the University of Cape Town, where she is now Emeritus Professor. Robert Morrell is Coordinator of the Programme for the Enhancement of Research Capacity at the University of Cape Town.

Science and Sustainability: Learning from Indigenous Wisdom

About the Book: Indigenous science is



often dismissed as quackery or nonsense, out of touch with progress and current events. However, indigenous peoples have passed down vital knowledge for

generations, from which local plants can help cure common ailments to knowing when insect migrations mean an incoming tsunami. These scientific practices that have been developed for generations by various indigenous peoples around the world have been largely ignored by Western colonizers in their lands. This is often because such science is passed on in stories, in art, and in embodied practice. From Japan and Indonesia to Australia and Canada, indigenous science involves environmentally-focused, sustainable practices that allow people to live with the land rather than in spite of it. Here, Joy Hendry examines the meaning of science through these indigenous solutions, problematizing the idea that Western science is the only type that deserves that name, and draws attention to some of its shortcomings. She explores alternatives to Western science using knowledge from indigenous peoples, with case studies from Aborigines, First Peoples, Pacific Islanders, and others.

About the Author: Joy Hendry is Emeritus Professor of Social and Cultural Anthropology at Oxford Brookes University and a Senior Member of St Antony's College, University of Oxford, UK.

Hegemony in the Representation of American Indians in K-12 US History Standards

By Madeleine Bean, 2014-15 ICIK Intern



Maddie Bean

It's been a few years since I've been in a high school American history class. But when I recently had a reason to think—really reflect—about what I could confidently say I've learned about indigenous peoples of America and their role in the history of the United States, I was startled to realize how little I knew. Sure, there are certain things that come to mind: the Battle of Wounded Knee, Sacagawea, Squanto, Pocahontas, The Trail of Tears. I can even rattle off the names of some Native American tribes; Cherokee, Iroquois, Apache, Navajo. And I know that the borough next to the town I grew up in is called Macungie, derived from a Lenape word. I vaguely recall a school project about the history of our county, which we discovered was once traditional Lenape land, but there were no Lenapes in our school.

When I asked friends what they remembered learning about American Indians in school, their experiences were similar to mine. None of us understood the historical context behind the things we could remember learning. Everyone I asked had attended good public schools in upper-middle class school districts, but the shallowness of our education about American Indians struck me for the first time when I attended the ICIK seminar presented by Dr. Sarah Shear, a new Penn State faculty member in Social Studies Education on the Altoona Campus. Her seminar was titled “Hegemony (Un) Bound: Representations of Indigenous Peoples in K-12 U.S. History Standards.” After attending her seminar, I realized it is no wonder that when my friends and I think about the Westward Expansion we remember only movie scenes of stagecoaches being attacked by Indians. We learned that a lot of Indians rode horseback and got killed by American bullets.

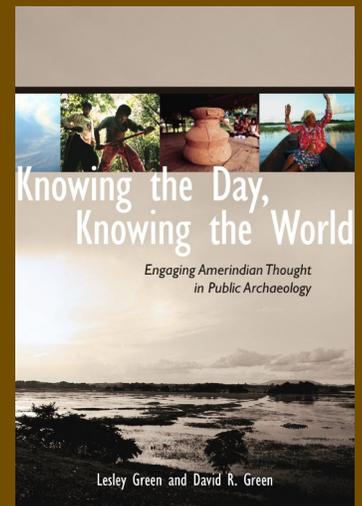


Sarah B. Shear

Dr. Shear's presentation of the findings of a recent study in which she and her colleagues examined the US history standards of 50 states and the District of Columbia, clearly illustrated why my friends and I knew so little about American Indians after “How the West was Won” (by the Americans, of course). Dr. Shear and her colleagues found that nearly all state-level U.S. history standards (88.66 percent) mandate the teaching about indigenous people only in the context of pre-1900 United States. Dr. Shear's research indicates that only 12 percent of Pennsylvania US history standards contain post-1900 indigenous-related content. It seems it is not surprising that my friends and I don't think about American Indians, except when we hear that they want the Washington Redskins football team to change its name.

My friends and I have experienced the practical impact of hegemony within our country's education system—within our country's history. Why did we learn so much about the Europeans arrival in the New World; about the founding of settlements; the expansion West; and wars fought overseas? We are taught, and consequently know, so little about the people, the communities, the *civilizations* that were in the United States long before Europeans arrived and destroyed them; utilizing the occasional individual Indian for their own benefit. As Dr. Shear noted, American hegemony is anchored to notions of Euro-American superiority and destiny, with the voices of the “Other” left largely out of the story. I have an incomplete education as a consequence of hegemony, but I also have a responsibility to seek out the voices that have been silenced in the hegemonic telling of history.

Watch Sarah Shear's archived presentation on Penn State's [ICIK website](#).



Book Highlight

Knowing the day, Knowing the World: Engaging Amerindian thought in Public Archaeology

by Lesley Green and David R. Green, University of Arizona Press, 2013

“Based on more than a decade of research in Palikur lands known as Arukwa in the state of Amapá, Brazil, Knowing the Day, Knowing the World reconsiders the dialogue between formal scholarship and Amerindian ways of knowing. Beginning and ending with a public archaeology project in the region, the book engages head-on with Amerindian ways of thinking about space, time, and personhood. Demonstrating that Palikur knowledges are based on movement and a careful theorization of what it means to be present in a place, the book makes a sustained case for engaging with different ways of knowing. It shows how this kind of research can generate rich dialogues about nature, reality, and the ethical production of knowledge.”

Synopsis from [Amazon.com](#).

Students Talk about Their Ojibwe Experience

On September 29th, the College of Agricultural Sciences, ICIK and the PSU Libraries hosted a seminar titled "Indigenous Knowledge: Engaging with Ojibwe Communities in Northern Minnesota." The seminar highlighted an enriching field experience open to all Penn State students. Dr. Bruce Martin, adjunct faculty member in the College of Agricultural Sciences, spoke about the May 2014 trip made by 21 Penn State students. The group traveled to the Red Lake, Leech Lake and Mille Lac Ojibwe nations located in Northern Minnesota as the cultural engagement component of an embedded course offered in the spring and summer semesters. The seminar was co-presented by Danna Jayne Seballos, assistant director of World in Conversation and Martin's teaching assistant, as well as six members of the 2014 Ojibwe class. The archived presentation can be [viewed on the ICIK website](#).



Twenty-one students make trip to northern Minnesota.

Formed from a unique relationship between Martin and Ojibwe leaders, this award-winning cultural experience brings students into native communities to participate in daily life on the reservations. Students lived with host families, took part in traditional ceremonies with medicine men and learned about the history and culture of the Ojibwe from local Native teachers. Participants at the seminar heard student's personal accounts of their cultural engagements and their developing perspectives on the ways of knowing of the Ojibwe.

The 2015 embedded Ojibwe courses will be offered in the spring and summer as CED 497C and CED 497D. CED 497 C will be taught in spring 2015. This 2.5 credit course, or its equivalent, is a prerequisite for the summer field experience which can be taken for 0.5 - 3.0 credits. Students wishing to enroll will find an application form on the [ICIK website](#), and should contact Dr. Martin at makwahmartin@gmail.com to discuss their interest in the courses.

IK and the Academy Call for Proposals



The Indigenous Knowledge and the Academy Special Interest Group is issuing a call for proposals for the 59th Comparative and International Education Society (CIES) conference in Washington, D.C, March 8-13, 2015. Quality paper, panel, poster, and workshop proposals are sought that apply an indigenous lens to the conference theme: *Ubuntu! Imagining a Humanist Education Globally*.

To contribute to the dialogue of a humanist education from multiple knowledges and perspectives, this call seeks proposals that examine, explore and address the interaction and intersection of indigenous education, indigenous knowledge, and global education. Proposals MUST be electronically submitted through the [CIES 2014 website](#) and comply with the requirements detailed in the guidelines. The submission deadline is **December 1, 2014**.

If you have any questions, please contact Tataleni I. Asino, IKA SIG chair, at tataleni@psu.edu.

Borlaug Leap Scholarships

For graduate students from Sub-Saharan African countries enrolled in agriculture-related programs, the Borlaug Leap scholarships are an excellent opportunity to develop academic and leadership skills.

Visit the website at: BorlaugLEAP.org for eligibility criteria and the application form.

The Norman E. Borlaug Leadership Enhancement in Agriculture Program (LEAP) is seeking applications for fellowship grant opportunities for students from sub-Saharan Africa. The deadline is **December 2, 2014** for fellowships starting **April 1, 2015 to March 31st, 2016**.

Applications are requested from sub-Saharan African students conducting research on topics related to the US government's global hunger and food security initiative -- FEED THE FUTURE. The focus region is sub-Saharan Africa. All topics related to agriculture (and related disciplines, as defined by Title XII) and the research strategies of the Feed the Future initiative are admissible.

The Borlaug LEAP fellowship program supports engaging a mentor at a US University and at a CGIAR center to support and enhance the thesis research and mentoring experience. Awards are made on a competitive basis to students who show strong scientific and leadership potential.



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ICIK E-News Re-Envisioned!

In spring 2015, ICIK E-News will have a new look, a new name and a new concept!

In spring 2015, The Interinstitutional Consortium for Indigenous Knowledge (ICIK) and the Penn State University Libraries will jointly launch a new publication titled *Indigenous Knowledge: Other Ways of Knowing*. It will replace *ICIK E-News* that you have been receiving for the past 5 years. Each issue of the new publication will be focused on a topical or thematic subject that will allow us to explore more in-depth critical issues of indigenous knowledge and indigenous peoples. We will actively encourage and solicit submissions on each selected theme from indigenous peoples as well as from academics, students, and those outside the academy who are interested in contributing an article, photo, poem, or statement related to a selected topic/theme.

The first issue of *Indigenous Knowledge: Other Ways of Knowing* will be guest-edited by Dr. Judy Bertonazzi. Judy was invited by ICIK to select a theme for the first issue of the new publication and to recruit authors to submit manuscripts on the topic of her choice: **“Storytelling and the Rights of Indigenous Peoples”**.

Like *ICIK E-News*, *Indigenous Knowledge: Other Ways of Knowing* will be archived by the Libraries and indexed on the ICIK website, icik@psu.edu.

Watch for the inaugural issue of *Indigenous Knowledge: Other Ways of Knowing* to arrive in your e-mail box in March 2015. In the meantime, tell us what topics/themes you would like to see addressed in forthcoming issues. Send your ideas to Lori Thompson at: lorianne3363@msn.com.

Thank you.

Audrey Maretzki, ICIK Co-Director



Lori Thompson
Editor and ICIK Liaison,
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Alternative Format and Affirmative Action Statements

Alternative Format

This publication is available in alternative media on request.

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