EMERGING PARADIGMS SERIES | PART 2
Weaving Tradition and Innovation
Merging our biocultural heritage and our innovative ideas to forge a sustainable future for our earth and its peoples.
**Langscape** is an extension of the voice of Terralingua. It supports our mission by educating the minds and hearts about the importance and value of biocultural diversity. We aim to promote a paradigm shift by illustrating biocultural diversity through scientific and traditional knowledge, within an elegant sensory context of articles, stories and art.

About the Cover: **Weaver Or Woven? A Self Portrait** By Aly de Groot, 2005. Materials: plant dyes, pandanus, copper wire. Photographer: Fiona Morrisson. Changing paradigms about how people see the world can be expressed through words, but more often a deep shift in behavior occurs through direct experiences and action. Knowledge about biodiverse plants is shared in the language used, along with actions taken, to create traditional Indigenous weaving. This is an art and craft that brings people close to fibers and materials that exist in nature and have been used for thousands of years. Additionally, this traditional weaving style has naturally been adapted and reinterpreted to communicate between Indigenous and non-indigenous people about threats to the environment and the need for conservation in the Northern Territory of Australia.

Langscape is a Terralingua publication.
Editor in Chief: Ortixia Dilts, Terralingua
Guest Editor: Kierin Mackenzie
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"we walk to the future in the footsteps of our ancestors"
~Kari-oca Declaration of the World’s Indigenous Peoples

The challenge we put out in this issue of Langscape is how we can weave tradition and innovation together to actively transform our current global paradigm. Current global paths have led to large-scale destruction of biological and cultural diversity globally, often through processes that are genocidal and ecocidal in nature. These processes are causing the breakdown of the dynamic continuity of tradition—of the ever-evolving intergenerational transmission of the values, beliefs, knowledges, languages, and practices that human communities have developed over centuries and millennia, and through which each community has defined, maintained, and creatively transformed its cultural identity and integrity.

As residents of this world, we are both the children of previous generations, siblings with all that lives, and the parents of the world to come. As the 1992 Kari-oca Declaration of the World’s Indigenous Peoples so aptly puts it, “we walk to the future in the footsteps of our ancestors.” That is the very essence of cultural continuity: change that is not disruptive and destructive, but that respects the past in creating the future, seamlessly weaving together tradition and innovation.

How can the linguistic, cultural, and biological treasures handed down to us be utilized in order to ensure their and our continuing existence? How do we draw on ancestral knowledge, practices, and arts to devise new solutions for our global predicament? How do we adapt the gifts, values and teachings of the past to create a brighter future? What new ideas harmonize well with these gifts to reinvigorate their usage where they have declined? How do they strengthen us and the generations to come?

We are entering uncharted waters as a species. No-one really knows what is to come, and how we are to turn the corner. All we can do is shed light on our own corner, share stories of what has worked and has not worked, share ideas, share seeds, and work to leave future generations with the same gifts we were given. This issue is to be a container of seeds for planting. This issue is to be a celebration of that which is growing. This issue is to highlight new flowers on ancient vines.

Join us as we continue to explore Biocultural Diversity as an emerging paradigm in a changing world. We hope you will enjoy journeying with us through this special volume of Langscape, and that you too will share what you learn with others.

Kierin Mackenzie and Ortixia Dilts
“Biocultural heritage” refers to the knowledge, innovations and practices of indigenous peoples, and their biological resources, from the crops they develop to the landscapes they create. It also includes indigenous customary laws, cultural values and spiritual beliefs. This tangible and intangible heritage has been developed and sustained over hundreds of years, for the food, health, economic needs of current and future generations. Biocultural heritage is a holistic concept, where knowledge, biological diversity, landscapes and culture are interconnected and inter-dependent. Together, these elements form the basis of sustainable and resilient local economies. – Krystyna Swiderska, page 13.

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This exhibition questioned the Indigenous and introduced People in Nowhere, Aly de Northern Territory was terra to the land. Twelve figures woven threat posed by the federal from the ceiling. The use of from introduced and Indigenous areas of Northern Australia.

Contributors

Aly de Groot is an Australian fiber artist with Dutch ancestry who draws on government for nuclear waste from Australia’s original people. Through her work she extends the conversation about environmental issues by encompassing traditional and contemporary styles of basketry and transferring these skills as an educational and ecological tool with a broad cross-section of the community.

Anna Varga is an Assistant Research Fellow at the Centre for Applied Linguistics in Washington, D.C. She graduated from Macalester College in Saint Paul, Minnesota with a BA in Linguistics and grew up between Ojibwe and Cree communities in the US and Canada. Her interests include language revitalization and documentation.

Aly de Groot is an Australian fiber artist with Dutch ancestry who draws on Indigenous peoples on several continents, and believes that diversity is the only real treasure.

Aly de Groot, 2006. My Honours Degree exhibition, journey into a Toxic Heartland, responded to issues surrounding the threat posed by the federal government for nuclear waste dumps proposed in remote areas of Northern Australia. This exhibition questioned the way in which the then federal government claimed that the Northern Territory was terra nullius denying relationships of place and the long-standing connection of Indigenous people to the land. Twelve figures woven from introduced and Indigenous plant materials were suspended from the ceiling. The use of indigenous and introduced plant materials reflected the fact that the health of the land is important to Indigenous and non-indigenous people alike and it is for this reason that we must unite in regards to this issue.

Guest Editor
Kierin Mackenzie holds a masters degree in Ethnobotany from the University of Kent and Kew Gardens. Currently he is working on a Doctorate at the University of Canterbury in Christchurch, New Zealand. He has worked with Indigenous peoples on several continents, and believes that diversity is the only real treasure.

Editor-in-Chief
Ortixia Dilts works as a Creative Consultant for non-profit organizations, and assists them in developing their potential in media, outreach and creative project development. Her passion for her work stems from her deep connection with nature. Amongst her ‘many hats’ at Terralingua, she currently serves as the Editor-in-Chief and designer, for Langscape, which she has been building from an internal newsletter to an emerging magazine over the past six years. Ortixia aims to educate the minds and hearts of people about the importance and value of biocultural diversity.

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Ajuawak Kapashesit is working at the Center for Applied Linguistics in Washington, D.C. He graduated from Macalester College in Saint Paul, Minnesota with a BA in Linguistics and grew up between Ojibwe and Cree communities in the US and Canada. His interests include language revitalization and documentation.

Alison M. Jones An award-winning documentary photographer and International League of Conservation Photography Fellow, she is the Founding Director of No Water No Life (www.nowater-nolife.org). This long-term project combines the powers of photography and science to raise awareness of watershed degradation and sustainable solutions that can help ensure clean water for all.

Ortixia Dilts works as a Creative Consultant for non-profit organizations, and assists them in developing their potential in media, outreach and creative project development. Her passion for her work stems from her deep connection with nature. Amongst her ‘many hats’ at Terralingua, she currently serves as the Editor-in-Chief and designer, for Langscape, which she has been building from an internal newsletter to an emerging magazine over the past six years. Ortixia aims to educate the minds and hearts of people about the importance and value of biocultural diversity.

Hilary King works to understand how people connect to place and each other through relationships with material things, from coffee to maize to yarn. When she’s not working to promote local food, knitting, or playing Scrabble, she moonlights as a PhD candidate in Cultural Anthropology at Emory University in Atlanta, GA, USA.

Coming from Cyprus, Inanc Tekguc uses the camera to catalyze his passions for photography, traveling, and biocultural diversity conservation. He has an MA in Visual Anthropology from the School of Anthropology and Conservation, University of Kent at Canterbury, UK. After passing on his knowledge of GESA in 2008, he has been a member of the Global Diversity Foundation, as a photographer/videographer for GESA and for other GDF programs, in addition to his freelance work.

Jeanine Pfeiffer is an ethnoecologist based in Mendocino County, Northern California. Known for her work linking traditional ecological knowledge with biodiversity conservation in communities and conservation projects of the Pacific Rim, her San Jose State University classes engage students in working collaboratively with tribes and tribal communities on contemporary environmental justice issues.

Julian Galarza, Sr. is a singer, a feather dancer, an expert craftsman, and an enrolled member of the Guadalupe Pomo, one of many tribes and tribal communities whose territory falls within Mendocino County, Northern California. He is from the Yokawa - Boka (Pomo), Redwood Band of Hupa Indian and Nomlaki.

Jusquau Amanda Bedard-Edenshaw is a Haida language activist in Masset, Haida Gwaii. She has her M.A. in Indigenous Governance from the University of Victoria. Jusquau spends her energy learning Xaad Kil (the Haida language) from her mentor Elder Primrose Adams, and in turn teaching it to her three children.

Biologist by training and skilled in development cooperation, Katja Heubach’s scientific interest lies in the area of social-ecological systems and nature conservation in West Africa savannas. As a post-doc with the German Network-Forum for Biodiversity and Science-Policy Interfaces, e.g. IPBES.

Katie Kamelamelia is a Native Hawaiian PhD candidate at the University of Hawaii at Manoa Botany department. She is grateful to the Polynesian Voyaging Society, Hakipu’u ‘Ohana, the Piko and the many hands throughout the world who make navigating with our ancestors a “living dream”. Follow Hokule’a around the world www.hokulea.org.

Kaylena Bray is Program and Media Consultant at The Cultural Conservancy. She has a degree in Commerce, Organization, and Entrepreneurship from Brown University, and has consulted for numerous Indigenous-led and social-entrepreneurship-focused organizations to strengthen the role of traditional ecological knowledge on climate change mitigation and agricultural food systems.

Ken Leslie has a PhD in Neuroscience. He started Haidawood in 2007 with the Haida carvers Jaalen and Gwaai Edenshaw. When he isn’t animating, Dr. Ken can be found making amazing things out of cardboard, blowing giant soap bubbles, inciting boffer battles, and playing the ukulele.

Kristyna Swiderska is a senior researcher in the Agroecology and Food Sovereignty Team at the International Institute for Environment and Development (IIED). Krystyna coordinated a project on “Protecting community rights over traditional knowledge: Implications of customary laws and practices” involving indigenous communities in Peru, Panama, China, India and Kenya. This project, co-coordinated with Asociación ANDES Peru, developed the concept of collective biocultural heritage and
tools for its protection. Krystyna is now working with ANDES and partners in China, India and Kenya on a programme of action research with indigenous communities, called “Smallholder Innovation for Resilience”, which seeks to strengthen indigenous knowledge, crops, practices and biocultural systems for adaptation to climate change, and develop tools for this purpose.

Maeva Gauthier is a marine ecologist and outreach specialist with Coastal & Ocean Resources in Victoria, BC. She is involved in the ShoreZone mapping program, which consists in collecting coastal aerial imagery by helicopter. Maeva organized film workshops with youth using that aerial imagery to engage communities about their coast.

Marie Acemah is an International Educational Consultant who bridges new technologies and traditional knowledge through digital storytelling workshops. From Uganda to Alaska, Marie supports inter-generational dialogue and film to facilitate indigenous communities to explore stories about topics ranging from climate change to conflict resolution, from discrimination to folklore.

Mark Gauti is a Coast Salish Artist from the T’Sou-ke First Nation. Mark worked as an environmental scientist for many years for his tribe, where he was involved in mapping of endangered species and gathering traditional ecological knowledge, on traditional uses of native plants for food and medicine. For the past ten years he has been involved in Coast Salish Culture, participating in drumming, language programs and Tribal Canoe Journeys, as well as researching traditional art and storytelling. Understanding that traditional First Nation’s art and storytelling was the original form of environmental education, Mark started mixing culture with more modern environmental programming with T’Sou-ke and now continues this work with other tribes.

Marques Hanalei Marzan is a Hawaiian fiber artist born and raised in Kane‘ohe, O‘ahu, Hawai‘i. He is a staff member of Bishop Museum’s Cultural Resources Division, where he is able to provide greater opportunities for cultural practitioners to learn from the treasures of our past. He shares his understanding and passion of the fiber arts through presentations, demonstrations, and workshops that restore, in modern culture, the living presence of rare Hawaiian forms, materials, and designs.

Nickson Otieno is a conservation biologist from Kenya and PhD candidate at the University of Quebec, Canada. He has a BSc degree in Wildlife Management and MSc in conservation biology, and is interested in conservation biology, agro-ecology, species conservation and anthropogenic influences on the environment.

An emerging ethnobotanist born and raised in Curitiba, Brazil, Thiago Gomes is interested in applied ethnobotany and restoration ecology, environmental history and education. He is a PhD student in Ecology at the Universidade Federal de Santa Catarina and scientific advisor for A Rocha Brasil.

Palma Vizzoni, MBA, is an organizational design professional with 19 years of experience in Sustainability. Palma’s vision is one where humanity’s diverse heritage of wisdom is called upon to approach globally shared issues. She is committed to creating the collaboration required to respond to this call.

Shaun Paul is the President of People & Planet LLC, working with individual and institutional investors and donors to invest in catalyzing environmental and social resilience especially with Indigenous Peoples. He has 25 years of professional and entrepreneurial experience in private finance, philanthropy, and international rural development. He is currently a founding partner with Good Capital in People and Planet LLC, to invest in growth companies accelerating environmental and cultural resilience in the food, forests and energy sectors. He also provides selective advisory services to donors and investors while serving as a Research Fellow at the Global Development and Environment Institute at Tufts University. Shaun serves on the board of International Funders for Indigenous Peoples, as well as a senior advisor to Accelerating Appalachia for nature-based companies and EcoMadera LLC in Ecuador.

Susannah McCandless is a geographer and political ecologist with a PhD from Clark University. Her fieldwork in the U.S. and Latin America focuses on the conservation of privately-held land and its potential function as a commons, and how identity and citizenship affect rights of access and movement. She is interested in the critical intersections between viable landscapes and just human livelihoods.

Yuki Yoshida is interested in the interface of human and ecological wellbeing and currently interns with the Global Diversity Foundation. She has a MS in Natural Resources and Environmental Sciences from the University of Illinois at Champaign-Urbana and a BA from Middlebury College in Environmental Studies and Psychology.

**EDITORIAL**

**Falling with Grace**

—the gift of adapting within crisis

Ortixia Dilts

This issue of Langscape, Weaving Tradition and Innovation, is part two in our attempt to challenge and redefine the global paradigm. While Part 1, (Langscape 2:12), Biocultural Diversity in a Changing World, focuses on global paradigms and indigenous cosmovisions, Part 2 presents the voices of modern innovation connected with our biocultural heritage and highlights the up and coming voices of those who are our future change makers.

The transition process is not always easy or simple. Some of us had to learn the whys and hows not from books or research projects, but the hard way -- from our mistakes -- and it is from this humble place that I wish to begin.

Life for me and my family hasn’t always been easy. When in crisis, we are forced to be innovative in order to adapt to a changing situation. For myself, I found it was necessary to plan ahead, eat simpler, local, and wild craft in order to feed my children. The gift is that we began to appreciate what we had, our diet became healthier, we learned about the medicines that grew around us to help us heal, our lifestyle became more sustainable and we endured. My daughter learned to sew to make our clothes, my boys learned to make their own toys from whatever was around them. I also learned humility, and to reach out to work with others, despite my shyness and pride, to achieve a common goal. I had to look back to the ways that my mother, my grandmothers, and their grandmothers, cultivated before me, and ask for help and advice. I do wish to acknowledge that even in those times in which we had little to put on the table, we still had it better than a large percentage of the world today. Nonetheless, weaving tradition and innovation became our way of life, not by romanticism but by necessity.
Introduction

The Global Environments Summer Academy (GESA) got its start in 2011 in Munich, Germany at the Rachel Carson Center for Environment and Society (RCC). It was led by Berkeley-trained anthropologist Dr. Gary Martin, founder of the Global Diversity Foundation (GDF), who had traveled to nearly 50 countries in over two decades of teaching ethnobotany and biocultural diversity, and met many inspiring environmental changemakers providing solutions to socio-environmental problems in their locales. He often found them working in relative isolation, without a robust community of peers to support and challenge them.

For the past three years, GESA has brought together 18-20 such innovators for three weeks of intensive peer-to-peer learning, exchange, and focused training: post-graduate students, activists and practitioners whose work promises to catalyze meaningful change. Through GESA, Martin has created a support platform for environmental changemakers: the Global Environmental Network (GEN). GEN sustains communication and collaboration among academy participants and resource people, thereby building the capacities of emerging environmental leaders and their collaborative networks.

We begin with this joint Langscape contribution, featuring seven GESA alumni, young people with a shared interest in protecting our planet’s biocultural diversity by integrating traditional wisdom with cutting-edge innovation. The following essays represent the geographical and disciplinary diversity of GESA. Yet each testifies to the inseparability of culture from ecology in the contributors’ respective field and locale:

In Kenya, conservation biologist Nickson Otieno encountered the threat of biocultural piracy to longstanding forest communities, and makes constructive suggestions to protect the communities. Across the continent, biologist Katja Heubach reports on community-managed botanical gardens that safeguard non-timber forest products that communities of Northern Benin rely on. Ethnobotanist Katie Kamelamela reflects on the cultural revitalization created by the contemporary renewal of traditional Polynesian voyaging. Native American advocate Kaylena Bray points to the intimate connections between food systems, well-being and the environment.

From a case study in Japan, environmental sociologist Yuki Yoshida reports on the land-based livelihood and revitalization efforts of rural and aging communities. Ethnecologist Thiago Gomes, working in western Canada and Brazil, describes the common theme of the mutual dependence of community culture and ecological integrity through a restoration ecologist’s eyes. Last but not least, ethnobiologist Anna Varga shares the story of her NGO’s progress in promoting traditional ecological knowledge in the wooded pastures of rural Hungary.

Together, this portfolio of alumni entries makes a powerful case for the protection of biocultural diversity and inclusive approaches to that process that heed both tradition and innovation.

Photos left: Elaeis guineensis fruits, © Adjima Thiombiano, BIOTA 2006 expedition; Tabuhi bark of a tree used in traditional medicine, © Katja Heubach, 2009; Basket display by Kathy Wallace demonstrating the vital importance of basket weaving for culture and ceremony among California Indians, © Inanc Tekguc; Unusual varieties of rice had been preserved by shrines in their non-commercial fields of rice to offer to the Shinto gods, © Yuki Yoshida; Hokule’a sailing to Hakipu’a, her birth sands, before departing from Hawai’i, Polynesian Voyaging Society ™, © Jason Patterson 2013; © Dániel Babai, Anna Varga learning from the elders.
The Isukha community of the Baluhya tribe in western Kenya derive nearly 60% of their needs from Kenya’s only tropical rainforest, Kakamega. Medicinal plants are among their most important needs, and the community possesses generations of indigenous knowledge concerning them.

Using publishing to champion community indigenous knowledge

Recently, rising costs of formal healthcare has sparked an increase in global demand for alternative medicine. As a result, a considerable wave of commercial prospectors is taking advantage of the Isukha people’s ethno-botanical knowledge for pharmaceutical production. Without involvement or acknowledgement to the community in the value-chaining process, drugs are quietly patented and sold to treat various illnesses.

This exploitation is made possible by the community’s economic disempowerment, absence of formal grassroots structures to champion collective social capital interests, and collusion with a few gullible individuals who secretly provide the information in exchange for token one-off compensation.

In 2011, I collaborated with the community to conduct an ethnological survey. I interviewed a number of Isukha elders and documented their knowledge on medicinal plants. The results were eventually published in the online journal Faculty of 1000 Research.

Such publications not only highlight the community’s social capital, but also consolidate existing knowledge. More importantly, widely circulated, peer-reviewed publications help to preempt commercial patenting. Under the rule of “prior art” in international law many countries are already party to, existence of previous knowledge on such cultural assets bars patenting of it or any related derivative product for private or other commercial use.

The Isukha community of the Baluhya tribe in western Kenya derive nearly 60% of their needs from Kenya’s only tropical rainforest, Kakamega. © Nickson Otieno

You can do something to protect indigenous communities against biocultural piracy

Nickson Otieno

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You can do something to protect indigenous communities against biocultural piracy

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This Isukha case is but an illustration; there are many parallels across Africa, Asia and Latin America. Prior art legislation is one of a raft of international regulations regarding Intellectual Property rights claims and disputes under World Intellectual Property Organization of the United Nations.

But establishing prior art is only the first step because not all countries are party to this law yet. Further, patent hunters can still exploit loopholes like demanding unequivocal proof of “community” ownership. Therefore, to strengthen communities’ bargaining power against biocultural piracy using prior art, I suggest the following logical steps:

1) Lobby more countries to ascribe to the decency of prior art in their jurisprudence;
2) Help communities establish basic institutional structures for championing recognition of their collective natural/social capital;
3) Put in place legal and policy instruments at the local and national level to compel biocultural prospectors to engage with and share benefits with the knowledge owners (proﬁts, patents, due acknowledgements);
4) Empower communities by actively involving them in documentation, ﬁling and dissemination of their indigenous knowledge, including incorporating them as main co-authors; and
5) Deposit copies of documents on indigenous knowledge in recognized national archives for back-up and evidence of communal knowledge ownership.

Thus, thanks to “prior art,” professional researchers can begin to play their part in eliminating global biocultural piracy.
From science to practice: Designing a plant reservation in the savanna areas of Northern Benin, West Africa, to help safeguard local livelihoods

Katja Heubach

Wild plants significantly support rural communities’ household income in Northern Benin

On average, 39 percent of annual household income in rural Northern Benin is constituted by non-timber forest products (NTFPs) from woody plant species. Of a total of 90 species collected in the region, 61% were used medicinally, 41% as firewood, 39% for construction, and 32% in people’s daily diet. The key species are *Vitellaria paradoxa* (Shea Tree), *Parkia biglobosa* (African Locust Bean Tree) and *Adansonia digitata* (Baobab). However, the five ethnic groups I investigated (the Bariba, the Fulani, the Ditammarie, the Kabiyé, and the Yom) show very distinct preferences for particular species, which originate from their different cultural traditions, spiritual beliefs, and histories of migration, as well as social differentiation.

Plant diversity under threat

However, this diversity of plant species and the availability of their products is severely threatened by climate and land use change. Our models predicted up to a 50% decrease in occurrence of - and economic flows from - the key species, due to hunger for land for cash crops and subsistence needs, as well as inappropriate environmental and economic policies. Since labour markets in the region are thin and the purchasing power to substitute for natural products is weak, households face very little elasticity with regard to lost NTFPs.

Creating a community-managed plant reserve to safeguard the provision of NTFPs

How can we tackle this problem of declining supply and simultaneously maintain current plant diversity levels? One feasible approach would be to actively cultivate these plants in a community-based fashion. Given robust governance, clear terms of use, balanced interests and power relations, a plant reserve could help to ensure traditional uses and secure ecosystem-based livelihoods. Furthermore, it could reduce the effort and risks of collecting in wild areas, particularly for women, and support them in their diet planning. Simultaneously, plantations would lessen the current pressure on key species in the wild. Installing them on degraded land would contribute to restoration in terms of soil fertility, inter alia. A survey I conducted among 200 households in the region showed the viability of such an approach: all respondents approved of the project, and were even willing to financially contribute to it.

Building on existing structures: the Botanical Garden of Papatia

Supervised by the local environmental NGO, Development Network of Community Nature Reserves (Réseau de Développement de Réserves Naturelles Communautaires; REDERC), researchers from the University of Frankfurt, Germany, and local traditional healers, a botanical garden was established in Papatia in 2001 to conserve species richness and traditional knowledge. The garden covers a 12-hectare strictly protected core zone containing more than 100 different woody species, and is endowed with a tree nursery. In its entirety, it serves environmental education and knowledge transfer. A community-governed plant reserve would seamlessly tie in with the existing botanical garden. REDERC has identified an appropriate plantation site in the village area. At present, the Network is investigating possible ways to transfer existing use rights to communal use. The plan to complement the existing garden area with a plant reserve, offers the promise to secure both biodiversity and the well-being of the local human community.
Ka ikaika o ka mana'oa me ke kino. Be strong in mind and body.
Katie Kamelamela

Ma ka hana ka ‘ike, ma ka hana ka mana.
In the work is the knowledge, in the work is the power.

One must be strong in mind and body (and spirit) to ‘auamo, or carry the kuleana, rights and responsibilities of the time. Our surroundings (physical, social, political, environmental) are a continuum of time. To weave tradition and innovation is a tricky business. Individuals who “blaze a trail” are constantly questioned about their internal motivations and the validity of the chants, dances, and dreams, they draw on. Inspired by our “living dreams,” we can envision and navigate our present and future.

He wa’a he moku, he moku he wa’a.
The canoe is our island, the island is our canoe.

A canoe is an island and provides finite resources for safe landing. In the same sense, Earth is our canoe with finite resources. Lessons from the canoe are effortlessly transferable to creating a better island Earth. These ancestral ideals will inspire us for years to come.

The Polynesian Voyaging Society (PVS) has inspired multiple generations to embrace traditional Polynesian seafaring since convening in 1973. A double-hulled canoe, wa’a kaulua, was envisioned and completed by PVS founders with a passion for Hawaiian sailing canoes. In 1976, Micronesian Satawalese Pius “Mau” Piailug navigated the wa’a kaulua named Hōkūle’a (“Star of Gladness”) to Tahiti using only the stars, wind, waves and intuition. This was the first time such a voyage was completed in over 500 years. Since these inaugural voyages, families, traditions and culture have been reconnected throughout Hawai’i and greater Oceania.

The construction of Hawai’i Loa is a clear example that we not only have to rebuild community, but restore and maintain a healthy natural environment to perpetuate Hawaiian culture. PVS had been unable to find native woods that could be used to make a voyaging canoe, and so the hulls were made of two giant Sitka spruce trees gifted by the Tlingit, Haida, and Tshimsian tribes of Alaska (according to records, large driftwood from the Pacific Northwest had been used in Hawai’i). Nainoa Thompson, executive director of PVS and first Hawaiian to navigate a reconstructed canoe, led this relationship. He also initiated planting native woods in Hawai’i. Nainoa continues to be strong in mind and body, ever building upon experience and his skills with intuition on the canoe. His visions will continue to inspire and navigate us to take care of our “island earth.”

Mālama Honua.
Take care of Earth.

Today, there are 25 voyaging canoes, 21 organizations and 1,000 active voyagers throughout more than 11 Pacific Island nations. Over the next four years, Hōkūle’a will journey over 47,000 miles, visiting 26 countries, touching 1,500 educators and training 260 crew members from over 16 countries and diverse backgrounds. Master Pwo navigators will lead the journey in the beginning, but Hōkūle’a will return home with a new generation navigating the way.

Ho’i hou ka piko.
Return to the source.

The strongest recommendation I can make as a family member of the PVS, Hōkūle’a and ‘ohana wa’a, the canoe family, is for us all to return to our source, our genealogy. To weave this genealogy with contemporary resources (human, material and spiritual) through experience. To dream, and most importantly, to support others in their dreams. As our ‘ōlelo no'eau, or wise sayings, teach us, “a’ohe hana nui ka alu ‘ia, no task is too big when done together.”

The work to come will take many more hands. In our world of ever-changing technology, communication and paradigms, we must remember to return to the source, our elders and children. In the work is the knowledge, in the work is the power. The canoe is our island, our island is the canoe. Through our actions, we take care of the earth, our relationships and ourselves.

For more on PVS’ Worldwide Voyage see Videography on page 86.

Photo: Partaking of ‘awa (Piper methysticum) in a coconut (Cocos nucifera) shell with a gardenia (Gardenia jasminoides) flower in preparation for ceremony. © Katie Kamelamela 2012
Emerging Paradigms of Food Sovereignty in Native America

Kaylena Bray

Culture of Food

Winona LaDuke articulates, “The recovery of the people is tied to the recovery of the food, since food itself is medicine; not only for the body, but for the soul, it is the spiritual connection to history, ancestors and the land.” Food systems inherited and passed down over millennia form part of an interconnected network of cultural, spiritual, and economic elements, which can be found in many Indigenous and Native conceptions of wellbeing, coexistence, and reciprocity: sumak kawsay (Quechua), himdag (Tohono O’odham) or johehgoh (Haudenosaunee). Since its inception nearly 20 years ago, the concept of food sovereignty has evolved as a transnational movement to include many of these concepts as pivotal points in building resilience, sustainable livelihoods, and cultural revitalization.

Well-being Initiative

Given the common threads linking food and wellbeing in once traditional societies, alternative paradigms are emerging (and re-emerging) that hark back to Ancestral food knowledge to re-define how we measure ‘living well.’ Through case studies carried out with Tribal communities in California, Arizona, Canada, and Hawaii, I will seek to understand these links as part of a broader picture along with case studies taking place in Japan, UK, Italy, and India, and conducted by my colleagues from the Global Environments Student Academy (GESA) 2013. The initiative, titled ‘The Wellbeing Initiative,’ seeks to examine the inherent connections between well-being and food sovereignty in diverse regions and landscapes, and in the process create networks, connections, and resources for individuals and communities. On a larger scale, The Wellbeing Initiative contributes to a broader alternative notion of meeting human needs focused on direct, or radical ecological democracy, and the idea of creating a hybrid system of localization and globalization that emphasizes production and consumption on a local scale, and mutual exchange and intercultural learning on a global scale.

North American Community Environmental Leadership Exchange (NACELE)

With the North American Community Environmental Leadership Exchange (NACELE), I began to connect with Native North American environmental leaders to explore food sovereignty initiatives taking place on Tribal lands. In practice, Native communities tribally and inter-tribally are working to bring back Ancestral food systems and practices as part of large scale environmental, cultural, and socio-economic planning. In the Karuk Tribe in northern California, Tribal environmental leader Ron Reed is working on a pilot program developed in partnership with UC Berkeley to establish important traditional land management and community-based food practices, and reinstitute traditional forms of trade and barter that were once central to creating diverse food systems along the California coast. Tony Skrelunas, Navajo (Diné) in Arizona, has created entrepreneurial youth programs centered on food systems and is working to establish Indigenous marketplaces and systems of exchange as part of a coalition of 15 tribes he helped bring together as part of the Grand Canyon Trust. The Cultural Conservancy is focused on Native food systems revitalization within the intertribal community, and creating access and learning models through the development of ethnobotany and native foods garden, Native science curricula, and Native CSA.

‘Food as Medicine’

I remember reading John Mohawk’s words about the power of food as medicine, and of the foods derived from Iroquois White Corn. In his teachings, he spoke of our ancestors, namely the 3 sisters, johehgoh, who provide life and represent strength of survival, and reminds us of the importance and interconnectedness we must have with our food. Emerging food sovereignty movements in Native America represent important movement toward what I hope will become a greater paradigm shift toward self-sustaining food systems rooted in cultural and spiritual values, and tightly integrated within the complex nature of culture, environment, health, and human wellbeing.
North of Kyoto, where Japan’s main island bends in a reverse “L” shape, the lone peninsula of Ishikawa prefecture juts out like a hand pointing east. In 2011, the Noto Peninsula’s Satoyama and Satoumi was recognized by the FAO as a Globally Important Agricultural Heritage System (GIAHS). “Satoyama Satoumi” literally translates as “home-mountain home-sea,” and embodies communities’ longstanding relationship of belonging to their surroundings seen throughout rural Japan. Noto’s way of life exemplifies a rich tradition of physical and spiritual mutual dependence with a diversity of natural life. As part of the Wellbeing Initiative to study such alternative ways of being, I was able to visit the area and learn about active efforts to conserve cultural and biological heritage.

The Challenge

Noto is no exception to the drastic aging and decline of rural populations in Japan. Many residents have had to migrate seasonally for supplementary income, and the youth are understandably drawn to alluring city jobs. “We know to persevere,” explained the elders I met. At 64 years old, hamashi (saltmaker) Yutaka Kadohana continues to carry 80kg loads of seawater in his daily routine. The steep terrain, severe winters, rough ocean and remoteness do not make for an easy lifestyle. Continuation of Noto’s unique traditions is seriously threatened.

Efforts towards revitalization: Reflection and Innovation

At the scenic Senmaida (literally, “thousand rice fields”), 1004 fields are packed into a steep seaside slope of 4 hectares. The smallest field, not much bigger than a kitchen sink, testifies to generations of hard work to produce a living on challenging terrain. Recently, the iconic scenery has been highlighted as a tourist destination. An Ownership Program enables non-residents to work in the fields or enjoy the prized harvest as shareholders. Thanks to media coverage of the mounting struggle to maintain the fields, elementary schools travel hours for annual service-learning trips.

In the city of Nanao, the Yamada family has been cultivating rice to offer to Shinto gods. Shigetaka Yamada’s switch to heirloom varieties was first motivated by logistical practicality, but has since evolved into an artistic display featuring colorful varieties of heirloom rice. When Yamada heard about the children who were so distanced from nature that they believed tomatoes grew in supermarkets, he decided to engage local preschoolers in traditional farming methods. The children became enthralled, and parents astounded at their emotional development. Traditional methods brought back to life neighborly relationships that had stagnated since modern machinery eliminated the need for collaboration. Waterways repopulated with fish and amphibians. Although the labor-intensive methods are not without their challenges, Yamada was clearly enjoying the rewards.

The future

Noto’s residents face an unrelenting challenge of the ticking clock. 15 years into the initiative, Yamada is approaching the physical limitations of himself and his team. Though the Senmaida seemed to be gaining momentum as a destination, less accessible fields are increasingly deserted, and Satoyamas falling out of maintenance.

Is the Satoyama Satoumi lifestyle becoming obsolete in the face of modernized methods of agriculture, fisheries, forestry, and land use? The communities’ strong interpersonal bonds, scenic beauty, biodiversity, and potential self-sufficiency are wanting in the metropolis. Their affection for the land and ocean, as well as sense of responsibility towards past and future generations is inspiring. While continuing to promote the touristic resources in his community for immediate survival, Eijun Ishizaki observed, “there needs to be a fundamental change in values.” Though still few, urban youth are trickling out into the countryside in search of an alternative lifestyle. This spring, Ishizaki’s “marginal” village celebrated its first newcomer family. Community efforts for perseverance in spite of the impending threats of aging inspire hope and admiration.
Restoring cultural landscapes in a rapidly changing world

Thiago C Gomes

How to best respond to rapid and drastic changes that affect ecological pattern, processes and function, as well as social and cultural ways of living, well-being and local economies in places with long-standing relationship between peoples and their natural environments? Most of the time, these changes result in significant loss of biodiversity, social distress and cultural erosion around the world.

A telling story emerges from the Araucaria forests of Mata Atlântica in southern Brazil, where I began my academic work studying traditional ecological knowledge about plants and the relationship between a local rural community and natural resources in the surroundings of a protected area. Clearly, local farmers were very aware of resources and services provided by adjacent forests for their livelihoods and well-being. As a result of the region’s long and ongoing history of logging, the farmers were especially concerned about maintaining forest remnants and recovering degraded areas. Surprisingly, these small farmers identified restoration as a priority for improving their quality of life and also for complying with environmental law.

Knowledge about reforestation using native species, ecological succession, and restoration emerged spontaneously during investigations.

Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed with respect to its health, integrity and sustainability, towards its historical trajectory. Human agency, therefore, is a fundamental element of restoration as a deliberate action, particularly in landscapes created or maintained by cultural practices.

After recognizing linkages between traditional ecological knowledge and restoration practice, I moved on to investigating the actual processes of restoration in a cultural landscape on the West Coast of Canada. Working closely with Songhees First Nations’ elders and youth returning to their home islands that had lain untended for more than 50 years, we were able to identify the role of history and culture in informing restoration planning and activities, as well as the role of restoration as a tool for social engagement and cultural rekindling in their territory. In my research, I explored the framework of ethnoecological restoration, merging the multidisciplinary field of ethnecology and the science of restoration ecology in an attempt to address social-ecological changes through a holistic and objective approach for restoration in cultural landscapes.

On one hand, local culture can generate adaptive responses to pressures of change towards ecological restoration in the form of detailed knowledge about ecological processes, natural resources, and plant uses, for example. Furthermore, traditional ecological knowledge can contribute to the practice of restoration by offering a cosmology that includes human responsibilities towards ecosystems and other living beings, as well as by identifying reference systems and defining scales for restoration interventions. On the other hand, healthy ecosystems are essential for the maintenance and perpetuation of cultural practices, often associated with natural environments.

Presently, I am working alongside the remaining Xokleng Indigenous People of southern Brazil on patterns of plant biodiversity and historical land use change within their territory and surroundings. Once again, an ethnecological restoration approach may prove itself valuable for bringing back local culture, restoring degraded ecosystems and supporting local livelihoods.

Photo: Restoring traditional orchards with the George brothers, © Thiago Gomes, 2011

Ethnobiology emerging, at home in Hungary and further away...

Anna Varga

Ten years ago, the phrase “traditional ecological knowledge” or “ethnobiology” was not well-known among Hungarian ecologists and nature conservationists, despite the fact that botanical traditions have long constituted a part of everyday life in Hungary. Our community, the Hungarian Association for Land and People (Táj és Ember Népfőiskolai Kulturális és Természetvédő Közhasznú Egyesület), plays a major role in promoting the importance of the human and cultural aspects in nature conservation. Both competency I acquired in GESA 2011 and the fact that some of our team could attend international ethnobiology conferences contributes extensively to our work.

The HALAP started in a self-organized school for biologists, which had been active from 2003 to 2005 under the leadership of Zsolt Molnár and Biró Marianna, ecologists at the Hungarian Academy of Sciences. The aim of this school was to promote and emphasize the importance of history and traditional knowledge in ecology and nature conservation. It was held bimonthly for 3 days in a village called Báránd. The school was based on 3 main tiers: 1. a presentation followed by a discussion; 2. discussion of excerpts; 3. traditional customs of the season. In 2007, we decided to re-start this self-organized school. The school is an itinerant event organized in multiple locations, and the periodicity of the occasions is not determined. We look for someone skilled and experienced in a given issue in the native environment where he/she lives and works, in order to understand them better and get even closer to the relationship between people and the land. In Keszthely, at the Georgikon Faculty of the University of Pannonia, the Keszthely Land and People Club was established in 2011 with a target audience of nature conservation and agricultural engineering students. The club aims to help students think holistically and understand the organic ties between land and people and the importance of biocultural diversity, hoping that students will carry on this approach in their future work. Club events are very popular among students and not only disseminate information but also provide opportunities to get to know students who are willing to conduct ethnobiological research under BSc, MSc or PhD training. Thanks also to club contributions, we are among the organizers of ethnecology research camps. In September 2013, the Szeged Land and People Club was launched in collaboration with the Ecology Department of the University of Szeged.

Our community also operates and conducts emerging work in virtual space. One form this takes is a mailing list that shares news about community programs and interesting information on various topics in ethnobiology. The last seven years of shared information can be searched in the knowledge database created on our website. Facebook provides an opportunity to reach out to lay people. The members are not just from Hungary, but live and work with Hungarian communities throughout the Carpathian Basin (Romania, Slovakia, Ukraine, and Serbia).

Our work resulted in enhanced respect for traditional ecological knowledge among professionals, but more importantly, the interest of the local communities in this topic is growing. Because all this is studied with a scientific methodology, the findings can be transferred to academia, and, through them, current decision-makers. Members of the people’s college often make efforts to implement the practices studied and learnt in their own lives. Many of us have turned partly or wholly to traditional folk crafts, or farming.

Image: Logo of HALAP, derived from a symbol of tree of life

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