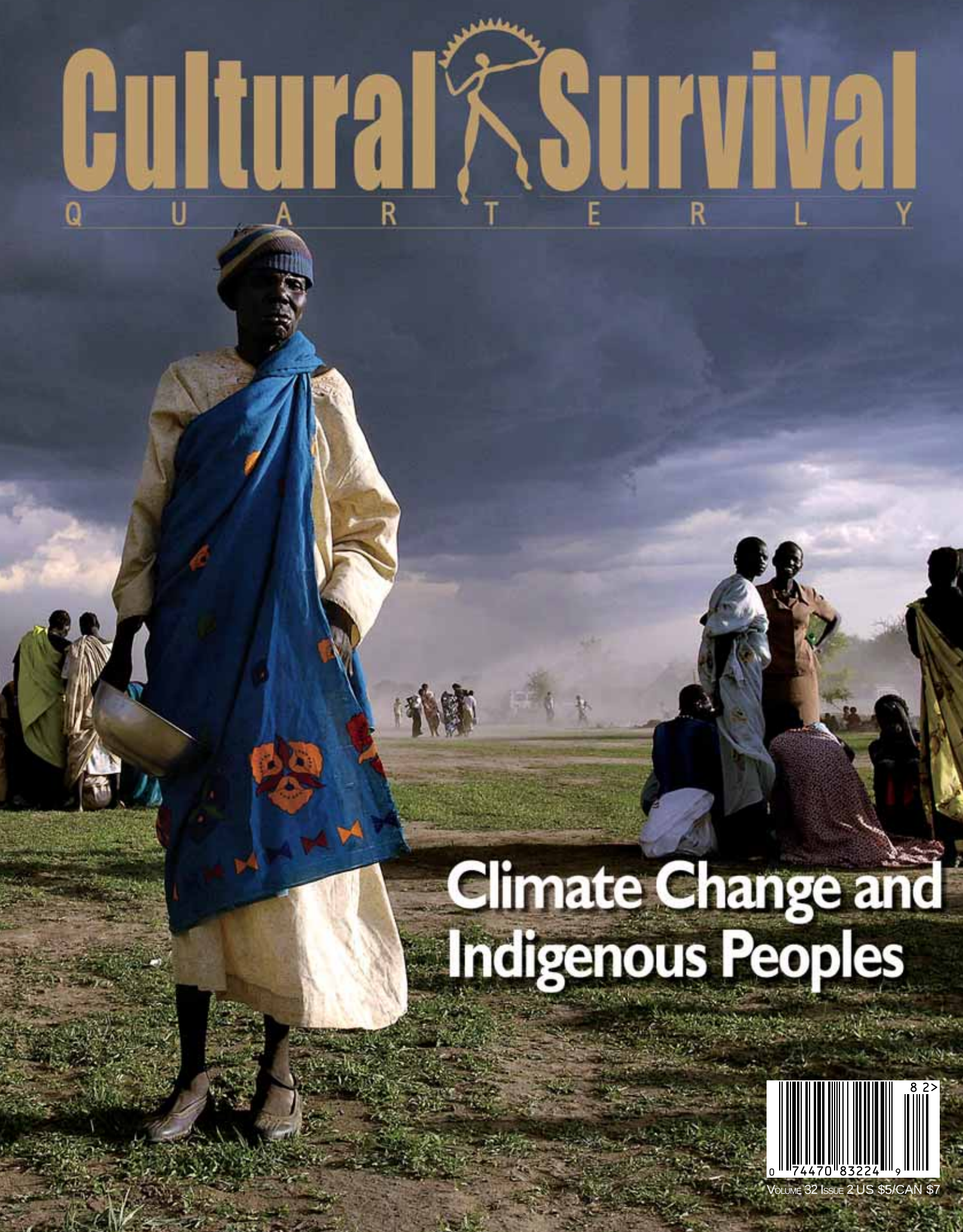
Cultural Survival
QUARTERLY



Climate Change and Indigenous Peoples

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An aerial view of the damage caused by Cyclone Nargis in the Ayeyarwady Delta region of Myanmar, along the shores of the Andaman Sea. Storms like this are expected to increase in severity and frequency with global warming. And such disasters affect indigenous peoples disproportionately. Photo by: UN/Evan Schneider

Cultural Survival

Before the day is over, an indigenous person will be killed or displaced. Before the month is over, an indigenous homeland will be clear-cut, strip-mined, or flooded. Before the year is over, dozens of indigenous languages will vanish forever. Governments and powerful economic interests perpetuate this human and cultural devastation. Cultural Survival works to reverse it. We partner with indigenous peoples to protect their lands, languages, and cultures and fight against their marginalization, discrimination, exploitation, and abuse.

Indigenous Empowerment

Cultural Survival partners with indigenous communities to help them advocate more effectively for their lands, languages, and cultures. Among other programs, we are leading a coalition of Native American organizations to save critically endangered Native American languages, and are reinforcing a network of community radio stations in Guatemala to help Mayans rebuild their cultures after 30 years of genocide.

Education and Outreach

Cultural Survival's publications raise public understanding of and support for indigenous peoples and their concerns. In addition to this magazine and our newsletter for indigenous readers, we produce research reports on governments' treatment of indigenous peoples for the UN Human Rights Council periodic review of each country's human rights record. We also maintain a website that includes the largest source of information on indigenous peoples anywhere, and we operate a series of fair-trade bazaars that give more than 30,000 people a year direct contact with indigenous artisans.

Become a Part of Cultural Survival

Cultural Survival's work is only possible because of our members. Join us in making indigenous peoples' rights matter. See the inside back cover for a membership form or join online at www.cs.org.

UN Declaration on the Rights of Indigenous Peoples

Cultural Survival's work is predicated on the principles set out in the United Nations Declaration on the Rights of Indigenous Peoples.

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This tea shop in Maitya village, Banke District, Nepal, was one of hundreds of homes and businesses disrupted by flooding in 2007. The picture makes clear just how little recourse indigenous peoples have when disaster strikes. Photo by Mukti Suvedi.

Features

On the cover: A storm moves in on an elderly woman, displaced from her home in Abyei by heavy fighting between the Sudan Armed Forces and the Sudan Peoples Liberation Army. Climate change only compounds the conflict that many indigenous people face. UN Photo/Tim McKulka

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GENERAL INFORMATION

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A To-Do List for the Next President

With the U.S. presidential election campaign now in its final phase, it is time for the candidates to address the global indigenous rights issues that will require attention in the coming four years. Cultural Survival respectfully calls upon them to:

Make Indigenous Peoples' Rights a Global Issue: The world's 370 million indigenous people are among the world's poorest, most marginalized, and most exploited people on earth precisely because they are indigenous: they speak unfamiliar languages, have distinct cultures, and live in remote locales that are among the only remaining sources of untapped natural resources. As a result, indigenous peoples today face the same pressures that their ancestors faced in colonial times. Governments and global businesses eager for the profits and benefits from indigenous natural resources engage in ethnic cleansing, forced relocation, and forced assimilation. Similar abuses create global outcry when they affect large populations in places like Bosnia, Rwanda, and Darfur, but they are no less heinous when they destroy small indigenous communities in friendly countries like Panama, Guatemala, and Brazil. The next administration not only should set the global standard for respecting indigenous peoples' land rights, self-determination, and sovereignty in all dealings with Native Americans—which both candidates already have pledged to do—but should insist that all other governments and all U.S.-based corporations do so as well.

Embrace the United Nations Declaration on the Rights of Indigenous Peoples: Over 25 years in the drafting, this global human rights instrument was adopted by the United Nations General Assembly last fall with just four "no" votes. Embarrassingly, the United States was one of those countries. The declaration is not a radical instrument; it mostly is a reiteration of the rights that each individual indigenous person already enjoys under international law. The big difference is that the declaration guarantees that indigenous peoples have rights as communities. By embracing the declaration, the United States will regain credibility as a global leader in the protection of indigenous peoples' rights and in the wider human rights domain.

Protect the Planet so that Indigenous Peoples Can Continue to Thrive in their Ancestral Homelands: The consequences of global climate change disproportionately affect indigenous peoples, and their territories encompass the vast majority of the earth's remaining intact forests and biodiversity—the only counter-balance left to the developed world's CO_2 emissions. That is why the United States must seek their input into all climate change discussions and negotiations. The U.S. government must become a global leader in climate change initiatives, starting by ratifying the Kyoto Protocol. The United States should then exert its influence to ensure that alternative-fuel programs and international carbon-market schemes are not imposed on indigenous peoples or territories.

Prepare to Meet the Consequences of Global Climate Change in a Just Manner that Respects the Rights of Indigenous Peoples: Sadly, as this issue of the *Cultural Survival Quarterly* demonstrates, the consequences of climate change are already upon us and increasing annually. Rising sea levels have driven some indigenous communities from their homelands, and changes in weather, water, and pollination patterns will eventually cause others to migrate across borders in search of arable land. The U.S. government should take the lead now by starting discussions on international agreements regarding environmental refugees, and it should ensure that indigenous peoples are well-represented in those discussions. It also should encourage and support indigenous peoples' efforts to adapt to the impact of climate change in their homelands.

Honor Your Promises to Native Americans: During the next administration, America will have a rare chance to alter the course of history by demonstrating that America honors and respects its First Peoples. Doing so requires undoing the harms of the past by offering Native Americans an apology (as Canada and Australia have done) for the cultural devastation caused by government boarding school programs and other past human rights crimes. The United States also needs to make reparations payments (as Canada did) and settle the Indian trust fund debacle so that Native American communities have the resources to undo the cultural destruction wrought by past policies. And the government should fund native-led programs that are restoring languages and cultural traditions to Native American communities. In addition, the new president should use his influence to transform the American legal landscape to reflect the principles in the UN Declaration on the Rights of Indigenous Peoples.

It will take strong leadership to change the way the nations of the world treat indigenous peoples living within their borders. But by starting here in the United States and making the protection of indigenous peoples' rights an element of U.S. foreign policy, the next administration can finally stamp out the legacy of colonialism and make the world a better place for indigenous peoples.

Dockside Dining in Ghana

By Joy Miller

A woman scales fish at the Tema fish market in Ghana.Photos by David Bonnardeaux

Sidle up to a Ghanaian table at mealtime and chances are you'll be presented with a meal featuring fish or other creatures hauled from the sea. Arriving at breakfast, you might encounter fried mackerel with blocks of *kenkey*—fermented cornmeal and cassava dough that has been steamed in banana leaf—and spicy pepper relish. Later in the day, the temptation could be *okro* stew, made from okra, ground shrimp, and salty dried tilapia simmered with spicy peppers and "garden eggs" (diminutive yellow eggplants). Even hundreds of miles from the West African coast, dried herring and other fish add flavor and protein to traditional dishes.

Dried fish features prominently in foods like *shito* (SHEE-toe), a spicy condiment redolent of smoked fish and shrimp, which are ground and fried with spicy peppers, rich red palm oil, ginger, and tomato paste. According to Fran Osseo-Asare, a cookbook author and noted expert on Ghanaian food, shito is also known as "students' pepper sauce." Because it keeps without refrigeration for many months, students going to boarding school take a big jar of shito to soften their *gari*—dried cassava granules reminiscent of couscous—and produce a favorite snack. Osseo-Asare notes that dried fish and shrimp are particularly valued because "it just takes a little bit to give a nice flavor to the food, and when protein is very expensive, a little needs to go a long way."

In general, Ghanaians get most of their animal protein from fish such as the freshwater tilapia, herring, mackerel, and dried anchovies (known as "Keta schoolboys," a name that local lore attributes to schoolboys' playful thieving of the tiny fish sun-drying in the village of Keta). No mere filet-eaters, Ghanaian diners also receive an important source of calcium from the bones of these small fish.

On a recent afternoon in Jamestown—the primary fishing community in the Ghanaian capital of Accra—three women sat on overturned plastic buckets, hacking off the spindly legs of dark plum-like crabs and the hard-shelled claws of larger crustaceans. Robert Richard Aikin, a Jamestown resident, reached over and yanked a claw from the growing pile in the women's tub. "A snack, like peanuts, or a dessert," he said, cracking open the shell with his teeth.

Tradition among the Fante, Ga, and Ewe peoples as well as other indigenous fishers dictates that men are responsible for bringing in the catch, while women dry, smoke, and sell it. These roles are evident in Jamestown, where men distribute the catch to women waiting on the shores. Throughout the narrow passages of the harbor community, women can be seen scraping off scales and tossing fish into palm oil bubbling on charcoal stoves. A few hundred yards from rows of colorful boats that pack the beach, women layer the fish onto wooden and mesh frames. These frames are stacked on low wood-burning mud ovens, where they must smoke for several hours be-

fore they can be stored and sold.

But the once-abundant supply of fish along Ghana's coast and in the nation's lakes and rivers is decreasing, in large part due to illegal fishing practices and foreign trawlers. A leaner catch has brought higher prices. These days, "those who don't have [much] money might have problems getting fish," says Kennedy Agbevey, a resident of the capital who hails from Keta, a coastal village near Ghana's eastern border.

Small-scale artisanal fishers dominate the industry in Jamestown, Keta, and elsewhere in Ghana, supplying most of the domestic annual consumption of fish, which is 50 pounds per person more than the global average. Ghana's Lake Volta is one of the largest man-made lakes in the world, and some 1,200 fishing communities line its borders. The fishing industry as a whole supplies a livelihood for up to 2 million Ghanaians. But increasingly, their modest motorized canoes must compete with foreign industrial fleets, which trawl the waters off the West African coast to satisfy Europe's ever-growing demand for fish. Jamestown fisherman Ransford Nyake Odwe says that it is not uncommon to see trawlers in Ghanaian waters, but that the rising number of local canoes is also to blame; with more fishermen of all types, he believes, everyone is left with a smaller share of the pot. To boost their catch, some local and foreign fishers have resorted to environmentally unsustainable practices like using dynamite or killing fish with insecticide.

As fish catches decline and become more expensive, some customers look elsewhere for protein. Researchers from the University of California Berkeley and Ghana's Wildlife Division have identified a correlation between declining fish catches and increased consumption of "bushmeat," or wildlife. Bushmeat might include elephants, smaller mammals like the cane rat, or reptiles. Berkeley biologist Justin Brashares and his team found that people buy fish or bushmeat, whichever is cheaper. When the supply of fish falls, the supply of bushmeat in the markets rises.

Ghanaians may be forced to reduce their seafood intake further if prices continue to rise as a result of decreasing fish stocks. This is not a problem limited to West Africa; the global fish supply has been in decline since the 1970s as a result of overfishing, destructive fishing practices and excess by-catch, the practice of discarding less commercially valuable fish back into the oceans. Foreign fleets may dump large percentages of their catch back into the ocean, keeping commercially valuable fish like tuna while

Fishing boats crowd Tema harbor. If foreign industrial fishing fleets continue their habits of overfishing and dumping noncommercial species, many of these boats will be taken out of service.

discarding the anchovies, mackerel and sardines—usually dead—that are the cornerstone of the West African diet. In the face of declining stocks, distant-water fishing fleets are even more heavily subsidized, allowing them to continue their fishing methods, even as they become increasingly unsustainable. This waste is compounded by poaching and pirate fishing, practices that ravage what some estimate to be 50 percent of potential fishing resources. Advocacy groups like Greenpeace and the Slow Food-inspired "Slow Fish" movement stress the importance of supporting traditional methods of fishing and small-scale fishing communities like the ones found on the coast of Ghana, as one way of preserving this practice, which is such a fundamental part of Ghanaian culture.

One dried-fish lover, Paul Yao Newman, a taxi driver in the Ghanaian capital of Accra laments the rise of fish prices but says that he will continue to buy it. "All you can do is reduce," he says, " but you can't deny yourself completely." If the number of fish in Ghana's waters continues to drop, future generations may have no choice. ■

Joy Miller is a writer, an avid cook and a researcher on human rights. Currently based in Accra, Ghana, she works on refugee resettlement issues and collects recipes across West Africa. David Bonnardeaux is an ecologist with a penchant for photography. He recently spent two years in Ghana consulting on biodiversity conservation and sustainable livelihoods with USAID, CARE International, and SGS Environment. His next port of call will be Ho Chi Minh City, Vietnam.

RECIPE

Shito

Hot pepper sauce (a.k.a. black or dark pepper sauce; students' pepper sauce; "engine oil")

This is the hot, spicy *sambal* of choice in much of Ghana. The trick in making *shito* is to remove all the liquid by stirring it over a slow fire until it turns dark. No water is added, and it requires tomato paste rather than fresh tomatoes. Increasingly, *shito* is being sold in markets already prepared and bottled.

Ingredients:

- onions, 2 medium, peeled and grated, to make 1 cup
- fresh garlic, ~2 large cloves, peeled and ground on a grinding stone, to make about 1 teaspoon
- fresh ginger, about one inch long, peeled and ground on a grinding stone to get about 1 teaspoon
- tomato paste, 3/4 cup
- peanut or other white vegetable oil, 2 cups
- whole dried red peppers (long chili peppers), picked over, about an ounce, or enough to make about 1/4 c when pounded (this recipe makes a milder, but still hot pepper sauce—those wishing a truly HOT sauce can double the pepper)
- 2-3 shrimp-flavored Maggi (or other seasoning) cubes
- smoked dried shrimp (large), 1.5 - 2 oz, to make 3/8 - 1/2 cup
- small smoked dried herrings, 3 - 4 oz (if not available, double shrimp), to make about 3/4 cup
- 1/2 bay leaf (plus another, optional, for seasoning oil)
- 1/2 teaspoon salt, or to taste

Prepare the shrimps and herrings separately: for the dried shrimp, break off the eyes and tails (sometimes Barbara removes the "legs" too); for the smoked dried herrings, remove all the skin, break off the head and tail. Place them onto different pans and leave them in a slow (~200°) oven for about 1/2 hour to dry out completely.

Heat the peppers in the low oven for about 30 minutes as well. Let cool.

After heating the dried peppers, shrimp, and herrings, macerate them by pounding (again, separately) in a tall wooden mortar with a wooden pestle. After about 10 minutes of pounding, the shrimp should be ready. It should not be completely pulverized, as "proper" *shito* requires some variation in texture (and for this reason should not be pulverized in a blender.)

Once the dried ingredients are ready, prepare the remaining ingredients, keeping each separate. For the Maggi cubes, crush each with the side of a heavy wooden spoon but do not unwrap them yet. Grate the onions, ginger, and garlic and set aside in individual small bowls. Measure out the necessary tomato paste.

To cook the *shito*:

In a large, heavy pot, heat the oil on medium heat, seasoning it by adding a few slices of onion, ginger, or another bay leaf. Remove the seasoning items before adding additional ingredients.

After the oil is heated, stir in the grated onion, and cook about 10 minutes, or until it is translucent but not browned.

When the onion is ready, stir in the tomato paste, blending it well with the onion and oil. After adding each ingredient, stir the mixture regularly with a sturdy wooden spoon to prevent it from scorching.

Add the ginger and garlic to the tomato and onions, mashing the mixture with the back of the spoon to make sure it is all mixed together.

Add the red pepper all at once and stir it in thoroughly.

Add the Maggi cubes one at a time, crumbling them with your fingers as you drop them into the sauce.

Add the dried herring and stir well, then the dried shrimp, and stir well. Let the sauce simmer for about 5 minutes. It will turn dark red and will continue to darken once removed from the heat.

Add 1/2 teaspoon of salt.

Stir the sauce and remove the bay leaf.

Remove the shito from the heat and allow it to cool before putting it into jars with screw lids. Shito will keep without refrigeration for weeks, but is best stored in the refrigerator and lightly zapped in the microwave to soften before serving.

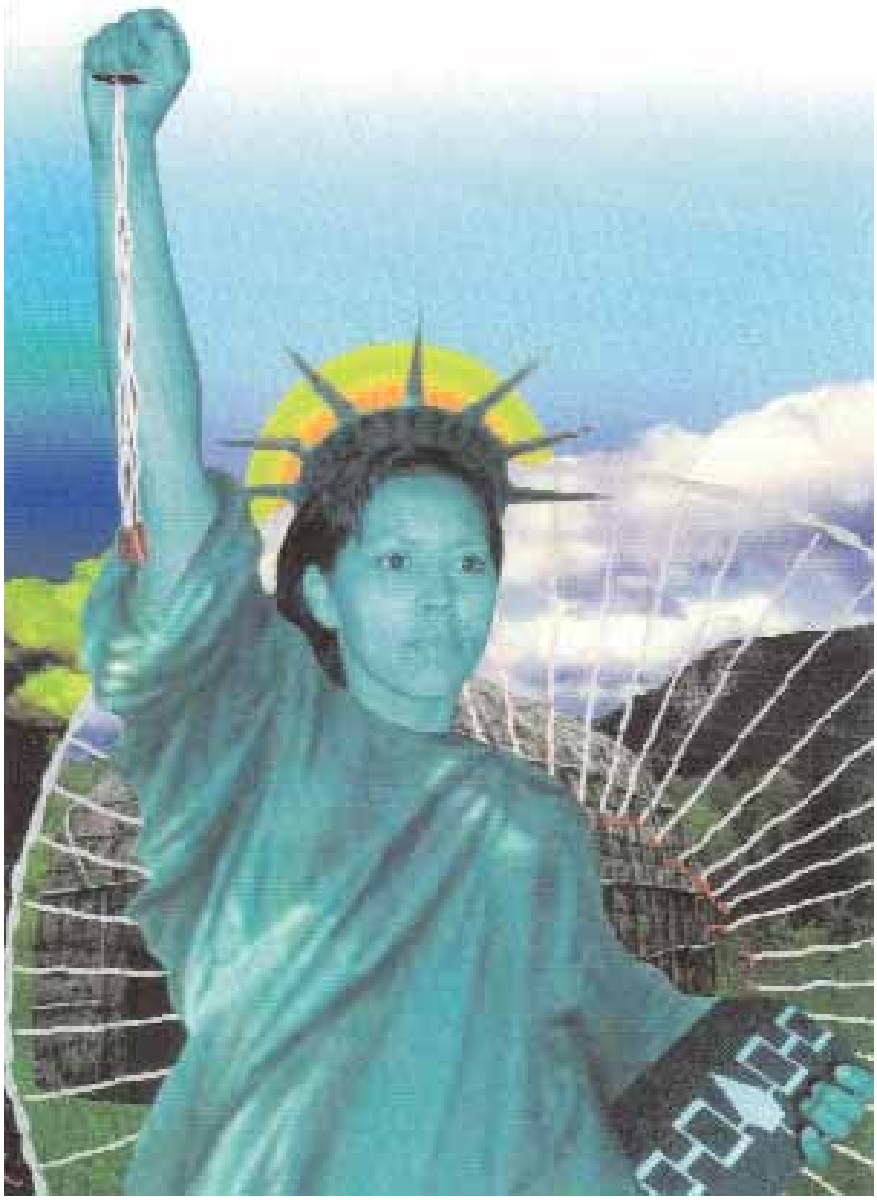
Bridging Urban and Traditional Cultures

By Phoebe Farris

Nadema Agard (Cherokee/Lakota/Powhatan), the director of Red Earth Studio Consulting/Productions, wears a lot of hats. She is a curator, editor, writer, repatriation consultant, artist, and NGO representative to the United Nations Permanent Forum on Indigenous Issues. She serves many communities, too, from her Standing Rock Sioux Tribe in North Dakota to New York City's multitribal urban American Indians to international indigenous peoples at the United Nations. In all of these dynamic venues Nadema Agard (her Lakota name is Winyan Luta, or Red Woman) brings her grace, compassion, spirituality, and, most importantly, her creative vision as a healing force.

Agard's art, publications, and lectures all reflect her concept of art as a vehicle for reflection and healing rather than as a commodity to fuel an exorbitant art market. Her art also reflects Agard's belief that visual forms are languages for tribal peoples in their sacred teachings and rituals. For Agard, the arts are a visual vocabulary that serves indigenous artists the way dictionaries serve literate, text-based societies, and she designs her works as visual prayers or offerings. "I was born to create," she says in an interview with Angela Cotten, a professor at the State University of New York-Stony Brook. "In these matters we don't have a choice. I do the work that I do because it is my job. The work that I do is a gift that comes through me and not from me."

As a syncretist with a pan-Indian view of native art, religion, and culture, Agard incorporates symbolism, visual manifestations of language, and culture from a variety of native cosmologies. The circle and the four directions, or the medicine wheel, is a symbol that inspires her works and expresses the relationship of the male and the female in perfect harmony. Agard's solo installation *She is the Four Directions: Transformational Crosses as Sacred Symbols of Life* explains the male and female relationship that is time and space. According to Agard's interpretation of the medicine wheel, "Time is male and the circle, while space is female and the directional cross. Vertical and phallic hierarchal forms are in balance with horizontal and nonhierarchal *yoni* forms ["yoni" is a Sanskrit word meaning "womb" or "place of birth"]. Such a balance is inspired by the traditional manner in which a man carves the bowl of the sacred pipe, which represents the female part of the universe, and the woman decorates the stem of the pipe, which represents the male counterpart."



Lady Liberty, mixed media.

In Agard's artist statement for the traveling exhibition *Visual Power: 21st Century Native American Artists/Scholars* she writes, "I consider my work as devotional pieces made in reverence to the earth, sky, sun, moon, and stars—all the creative and regenerative forces of the universe. Inspired by the images and cosmologies from Native American traditions of the southeastern and Great Lakes woodlands, the Southwest, the Plains, and Meso-

America, my work is a metaphor for the cosmic relationships between the sacred feminine and sacred masculine. My agenda as an artist is to help create balance in a world of strife and destruction. There must be a balance of masculine and feminine powers to create harmony."

Agard has had many solo exhibitions in New York City and participated in several national traveling exhibitions. Just a few of the more recent and well-known exhibitions are *Parfleche Visions and Moon Breast Mothers; Mother Love: Native Women and the Land; Impacted Nations;* and *Visual Power: 21st Century Native American Artists/Intellectuals*. The works *Great Lakes Yoni* and *Fire Goddess Yoni*, both from the exhibition *Parfleche Visions and Moon Breast Mothers*, have deep earth-color shades of green accented with warm pinks, red, and rose tones. Their circular forms draw the viewer's eyes toward the centers, where one can see the head of a snake and a moon breast with a large nipple that also resembles an all-seeing eye, and a canoe shape that resembles the vagina and labia lips. "The copper snake," Agard says, "is inspired by and an interpretation of the great Fire Goddess of Aboriginal Australia, and the canoe depicted in 'Great Lakes Yoni' is the female counterpart to the male paddle."

Also in the same exhibition are two parfleches (parfleches were traditional Lakota utilitarian and decorative traveling cases designed to carry objects in a space-effective way). *Tatanka Ska Oyate* (White Buffalo Nation) is dedicated to the White Buffalo Calf Maiden, who brought the sacred pipe to the Lakota Nation, and *Parfleche Visions of Eternal Time and Space* symbolizies the directional cross as the feminine complement to masculine time. As Agard states about this work, "We are the children of Father Time and Mother Space."

Artist Nadema Agard in front of *13 Moons: Monkey, Jaguar, Parrot, Turtle, Snake, Lizard, Rose, Lily, Butterfly, Buffalo Skull, Yoni, Corn and Fish*, acrylic/canvas sculpture/mixed media, 5" diameter each

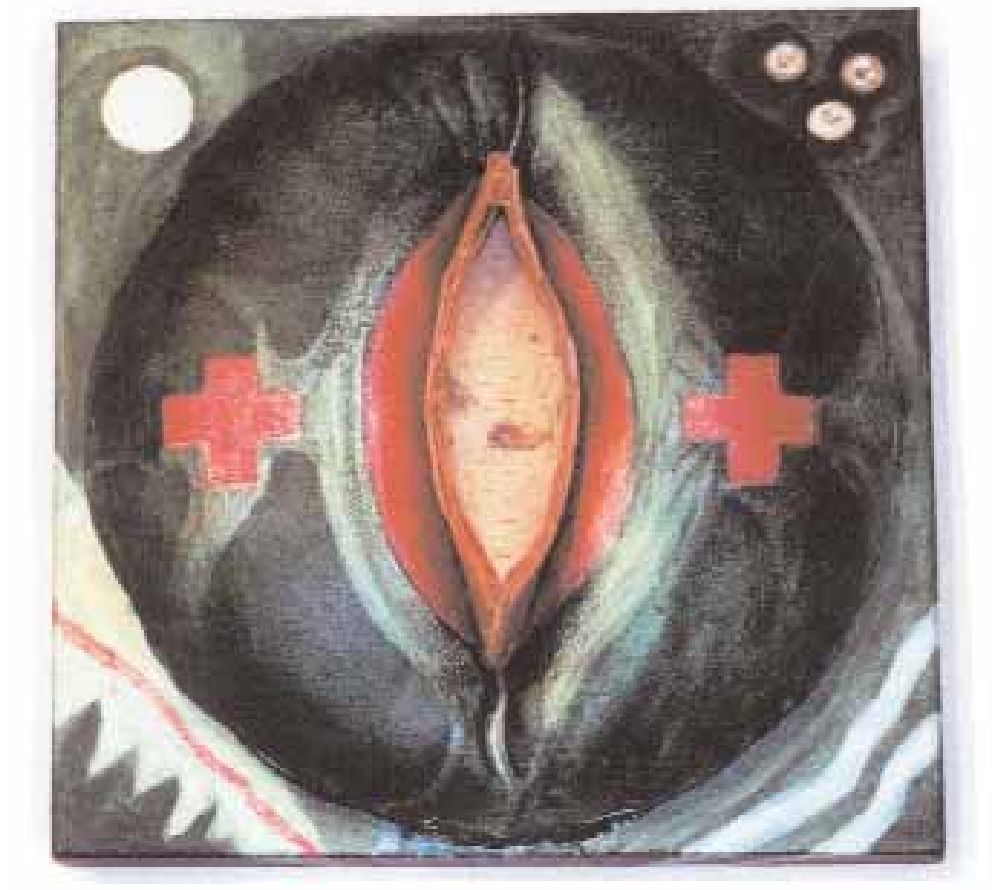
In the late '90s, Agard produced the one-woman show *Starblanket Heaven*, dedicated to her paternal family on Standing Rock Reservation. The depicted star is the Morningstar, an ancient Lakota symbol, also sacred to Christians as a symbol for Jesus in the book of Revelation. While not always converting to Christianity, the Lakota adopted sewing techniques of the missionaries and created their own star quilts, which are now a fixture in most Lakota homes. The exhibition consists of mixed-media soft sculptures and pastel images with color reflective of the North Dakota sunrise across the prairies. The work was completed while Agard served as repatriation director for the Standing Rock Sioux tribe, when she had an opportunity to directly experience the Great Plains culture of her father's family. *Starblanket Heaven* also served as a bridge connecting her family on the reservation to her urban Indian family in New York.

Agard was born in New York City in 1948. Her mother is Cherokee with southeastern roots, and her deceased father was Lakota/Powhatan. Her paternal grandmother had Powhatan ancestry from Virginia, and her late husband was a Mississippi Choctaw. Like many Native Americans, her relatives migrated from rural reservations to large cities like New York for better job opportunities, and in the process helped to create New York's vibrant, urban, multi-tribal community, a community served by the long-standing American Indian Community House.

In addition to her work as an artist, Agard is recognized as a curator, with notable New York City exhibitions such as *Who is the Virgin of Guadalupe: Women Crossing Borders* (Henry Street Settlement Abrons Art Center); *Lady Liberty as a Native American Icon* (2003, American Indian Community House Gallery, also exhibited from 2005-2006 at Ellis Island Immigration Museum, Statute of Liberty National Monument); and *The Fort Apache Connection* (2007 Longwood Art Gallery, the Bronx).

Describing one of her major curatorial projects, *Lady Liberty as a Native American Icon*, Agard says, "The idea for this exhibition was a healing process born the week following the World Trade Center tragedy. It was a time of great sorrow and shock, but for myself and many native peoples, it was also a time to reflect upon the history of this continent called Turtle Island, our original homeland."

Participating artists such as Ina McNeil (Hunkpapa Lakota), Shelley Niro (Turtle Clan, Mohawk), Laura Ortman (White Mountain Apache), Annalisa Agard (Standing Rock Sioux), Katsitsionni Fox (Bear Clan, Mohawk), Barbara Jones Snyder (Northern Paiute/Washoe), Beverly Singer (Tewa/Din), and Glory Tacheenie-Campoy (Navajo) were women "who identified with an indigenous spirit predating the American icon, yet amplifying her significance. The art works imbued the Statue of Liberty with a



Fire Goddess Yoni, acrylic/canvas sculpture/mixed media, 16″ diameter

native feminine presence reflective of a nurturing and protective warrior mother." The exhibition displayed paintings, photos, videos, mixed-media installations, quilting, and traditional doll making that explored the images and multiple meanings of the Statue of Liberty.

Despite the tragedy of September 11, Agard says Native Americans have remained undaunted. "Our legacy since 1492 has been one of ongoing trauma and strife. We native people know that physical weapons of destruction cannot destroy a true nation. A Cheyenne proverb conveys the idea that a nation cannot be destroyed until the hearts of the women are crushed to the ground. We believe that women are the backbone of a nation, a nation defined by its people, not by borders."

A 2003 recipient of the Ingrid Washinawatok Award for Community Activism, Agard continues to serve her community as a bridge between urban and traditional cultures with her new project: hosting a website for the Smithsonian's National Museum of the American Indian that will highlight the indigenous communities in New York City. The site will include videotaped events, photographs of individuals, and a vocabulary of greetings with an audio stream of recordings from fluent speakers of native languages.

Contemporary art created by Native American artists like Nadema Agard, reaches into the past for some of its influences, but is also a product of its times and is visionary, reaching toward the future. The symbols in Agard's work are protectors and reminders of the living universe, connecting a rich heritage of visual imagery and creating a discourse that will ensure native cultural continuity. "My work has a global agenda from a native perspective," she says. "It is the interconnection of myself as a woman, mother, native person, spiritual being, and warrior. I do this work because it is a journey towards healing and wholeness and because it is greatly needed in this world today". ■

Nadema Agard can be reached at redearthstudio@aol.com

With this issue of *Cultural Survival Quarterly* we introduce a new editor for our arts department, Dr. Phoebe Farris. A member of the Powhatan-Renape Nation, she is a professor of Art and Design/Women's Studies at Purdue University and an independent photographer, author, and curator. Her work has been exhibited in many venues, including the Smithonsonian Institute's National Museum of the American Indian.

She has received a Fulbright grant, a Rockefeller Humanities Fellowship, and a National Endowment for the Humanities grant, and has held residencies at Harvard University and Mills College. "It gives me great pleasure," she says, "to have the opportunity to profile indigenous artists/culture workers who are using their creative visions to help indigenous communities thrive. The artists profiled in this series will be people proficient in many artistic fields from the visual arts to music, dance, theater, film/video, traditional crafts, and the literary arts; artists whose techniques may be firmly in the 21st century but whose messages are often tied to their communities of origin. These are artists who are also committed to volunteering their time teaching their crafts to multi-generational populations or donating works to tribal museums and schools."

Indigenous Peoples

By Mark Cherrington

Just five years ago, governments, pundits, and the general public were talking about climate change—to the extent they were talking about it at all—as a vague issue that was open to question. Today it is not just accepted as a fact; it is seen as a crisis. But indigenous peoples have known for decades that climate change is happening, and they know better than most exactly what it means.

Indigenous peoples tend to live close to the land. They are subsistence farmers, herders, fishers, and hunters, with millennia of collective knowledge about the ecology of their surroundings. With that knowledge and experience, even tiny changes in water cycles, wildlife, soil, and weather are readily apparent. An indigenous farmer notices that a certain insect is slightly less abundant this year or that a particular flower is blooming three days earlier.

Unfortunately, the same closeness to the land that has given indigenous peoples early warning about global warming also means that they suffer the consequences of it to a far greater degree than others. The trends of history and hegemony have left many indigenous peoples living on land that is already marginal, so even relatively small changes in temperature or rainfall have an outsized consequence. The Maasai, who originally grazed their cattle on lush grasslands, have been pushed by colonization and the power of dominant societies onto semiarid scrubland where their herds can find just enough food under the best of climatic conditions. A drought or heat wave can spell disaster for them. If melting glaciers and reduced winter snowpack in mountains cut the amount of water available in the lowlands, an indigenous subsistence farmer in the valley below often does not have the technical or financial option of drilling into aquifers or using irrigation, and if his crops fail, the consequence can mean starvation for his family.

and Climate Change

A nomad and his son in Darfur, Sudan, live in what is already a marginal climate. Even small shifts in rainfall and temperature can make this land unihabitable. UN Photo/Stuart Price

Of course, indigenous people have dealt with climate change and environmental upheaval for thousands of years; adaptability and resourcefulness are the hallmarks of any indigenous culture. Megan Gray's article about Native American wind energy initiatives on page 35 is a prime example of this principle. And indigenous peoples collectively have developed considerable skills and presence in international bodies like the United Nations, where they are pressing their case about climate change. The recent UN Permanent Forum on Indigenous Issues was focused entirely on this issue, and the land rights promoted in the Declaration on the Rights of Indigenous Peoples clearly have application to this subject. But for all that, indigenous peoples were physically shut out of the world climate summit in Bali in December. And on a local level, the possibility of relocating, which was the most common adaptation to climate change in the past, is no longer an option in today's vastly overcrowded world.

One of the cruelest ironies is that some of the biggest current threats to indigenous lands are efforts to alleviate global warming. As the industrialized world grudgingly comes to realize that petroleum-based energy is untenable, it is turning to alternative energy-generation strategies. Hydroelectric power seems, at least to dominant cultures, like an ideal alternative to oil. It is perceived as clean, perpetual power that can be generated domestically. And the number of dams being built has been increasing. According to Sandra Postel of the Global Water Policy Project, there are now 45,000 large dams in the world, with an average of two more being added every day. But many of those dams are being built across rivers in indigenous territories, flooding villages, destroying farmlands and hunting grounds, and disrupting fishing. Those indigenous communities rarely have the political power to fight against the dams, especially when the majority society perceives that hydro power will help slow global warming, which will benefit the whole planet (an argument that would carry more moral weight if governments were willing to compensate the

Some of the biggest threats to indigenous peoples are the efforts to stop global warming

indigenous communities who otherwise carry the cost of saving the world).

Concerns over greenhouse gases have even reached a point where people are seeing nuclear power as an attractive option—in the process ignoring its deadly side effects. Indigenous peoples are not so blithe about nuclear power. In anticipation of a nuclear renaissance, the price of uranium has skyrocketed over the past year or two, prompting mining companies to reopen old uranium mines and establish new ones. But 70 percent of all uranium on earth is on indigenous lands, and indigenous people, either as miners or innocent bystanders, are exposed to dangerous amounts of radiation. In the Navajo Nation alone, an estimated 400 native mine workers died from radiation exposure during the first mining boom in the 1950s and '60s. As much as 22 million tons of toxic mine tailings have been left in the western United States, again mostly on indigenous lands. The proposed Yucca Mountain nuclear repository, which would hold 300 million pounds of high-level nuclear waste, is on treaty lands of the Western Shoshone.

As Vicky Tauli-Corpuz reports in this issue, biofuel, which is increasingly touted as a panacea, again benefits the most industrial societies at the expense of indigenous ones. The problem here is two-fold. The world's current food crisis—a drastic shortage of rice and other staple grains—is at least partly due to having an ever-larger percentage of crops going to fuel vehicles instead of feeding people. As supplies go down and prices go up, the poorest people in any society suffer most, and typically indigenous peoples are the poorest of the poor. The second problem with biofuels lies in the land being devoted to growing those crops. Tauli-Corpuz explains how oil palm plantations are being carved out of indigenous territories with astonishing and increasing frequency. The same thing is happening in many other countries with soy and other biofuel crops.

One of the global climate change mitigation programs that appears most promising is, in fact, likely to further impoverish indigenous communities: a new program from the World Bank that will pay governments for not cutting down their forests, which act as a carbon reservoir. Since the majority of existing forest tracts (and 80 percent of the world's biodiversity) are on indigenous territories, and since indigenous peoples have long managed their forests as a sustainable natural resource, they should be the principal beneficiaries of such a plan. But the bank set up the program without substantial consultation with indigenous peoples, and they structured it to be a government-to-government system, so the money will go to indigenous communities only if their government decides to pay them for their ecological services—an unlikely scenario. Instead, the money will likely be paid to logging companies to keep them from logging. Moreover, the system counts tree plantations as forest, reinforcing the oil palm plantations that are already displacing indigenous peoples and natural forests.

Indigenous peoples not only are suffering the consequences of climate change more acutely; they are facing them sooner. Consider the question raised in Casey Beck and Austin Blair's article about Kiribati on page 21. That island nation is facing the prospect of complete inundation as sea levels rise; it seems inevitable that within a few years the entire country will be underwater, so the president has to contemplate moving his entire population to another country. "Can we remain nationals of Kiribati when we are living in Australia?" he asks. "What would be our citizenship? Do we still have sovereignty of Kiribati when there is no longer the country of Kiribati?" These are questions that will increasingly be asked by indigenous peoples as they are displaced by drought, deforestation, and land loss. Some of them will be displaced across national borders, but they will not be refugees. That term suggests a temporary status; these people will be moving permanently, and they will be moving as an entire people, not just as individuals. No one has yet considered, let alone planned for, the issues of sovereignty, identity, and culture that will flow from this situation.

The problems faced by indigenous peoples are harbingers of what all peoples will face eventually, and they dramatically expose the ideological shibboleths the rest of us are not yet willing to examine: market-based solutions for every problem, the tendency to see carbon trading as a means to continue business as usual, the desire to keep our cars at any price, and many others. But indigenous peoples offer more than a rude mirror. They also offer an alternative point of view about the world, one that sees natural processes as cyclical, one that reflects respect for the earth, and, most of all, one that considers all our actions in the context of future generations. ■

Mark Cherrington is the editor of Cultural Survival Quarterly.

GUARDIANS

Bhola Island in Bangladesh is rapidly shrinking as the water rises around it. Photo by Gary Braasch (see book review page 47)

Indigenous peoples have been largely excluded from discussions about climate change, but in many ways they hold the key to the problem.

By Victoria Tauli-Corpuz and Aqqaluk Lynge

In living off the land and gaining knowledge through their relationship with the land, indigenous peoples have been observing the effects of global warming firsthand for decades and have been developing coping strategies. They have observed changes in temperature, changes in the amount and quality of rain and snow, and changes in seasons and natural cycles. Among the impacts of global warming on their lands and lives are these:

- More diseases associated with increasing temperatures and vector-borne and water-borne diseases such as cholera, malaria, and dengue fever;
- Worsening drought conditions and desertification, leading to increased numbers of forest fires that affect land use, subsistence agriculture, and hunting and gathering livelihoods, and that bring about a serious loss of biodiversity;
- Excessive rainfall and prolonged droughts, resulting in more occurrences of dust storms that damage grasslands, seedlings, and crops, including livestock of pastoralists and nomadic indigenous peoples;
- Coastal and riverbank erosion and rising rivers, caused by higher temperatures, thawing permafrost, and melting mountain snow, glaciers, and sea ice;
- Reduced populations of animal species due to warmer temperatures; new marine species due to warmer seawater; and changes in animal travel and migration routes;
- An increase in new types of insects and lengthened life spans of endemic insects (e.g., spruce beetles), that destroy trees and other vegetation;
- Coastal erosion exacerbated by a rise in sea level; stronger hurricanes and typhoons, leading to loss of land and dislocation of indigenous peoples; loss of mangrove forests;
- Food insecurity due to the difficulty of maintaining viable fish populations; coral bleaching due to higher sea temperatures;
- Increasing human rights violations, displacement and conflicts due to expropriation of ancestral lands and forests for biofuel plantations;
- Increasing costs of food due to competition with biofuels, exacerbating food insecurity;
- Extreme cold spells, resulting in health problems, such as hypothermia, bronchitis, and pneumonia, especially among old people and young children;
- Loss of traditional territories due to mitigation measures like carbon sinks and renewable energy projects (hydropower dams, geothermal plants), taken without indigenous peoples' free, prior, and informed consent.

Inuits on Baffin Island are among those most dramatically affected by climate change, which hits polar regions first and hardest.

Photo by Abby Fenton/ Will Steger Foundation

These problems are all the more egregious because indigenous peoples contribute significantly to the reduction of greenhouse gas emissions. Their successful struggles against deforestation, against mineral, oil, and gas extraction in their ancestral territories, and against further expansion of monocrop plantations, as well as their sustainable production systems and their effective stewardship over the world's biodiversity, have kept significant amounts of carbon under the ground and in the trees. There are at least 370 million indigenous people throughout the world practicing mostly sustainable, carbon-neutral, or even carbon-negative, lifestyles. In contrast, the United States, with a population of 300 million, accounts for about 25 percent of world greenhouse gas emissions.

About 45 percent of the earth's land mass is devoted to agriculture, and agricultural practices account for 13.5 percent of all greenhouse gas emissions. The majority of these emissions stem from poor agrobusiness practices. Indigenous practices, such as rotational farming, pastoralism, hunting and gathering, trapping, and the production of basic goods and services, often use environmentally friendly, renewable and/or recyclable resources. For example, the Igorot of the Philippines; the Karen of Myanmar and Thailand; and the Achiks of India continue to practice traditional, rotational agriculture. This practice increases the overall health of forest and jungle ecosystems, which are critical to the mitigation of global warming.

Deforestation and forest degradation account for approximately 17.4 percent of global greenhouse gas emissions and nearly 25 percent of global CO_2 emissions. This makes deforestation the third largest source of greenhouse gas emissions after energy and industry-related emissions. As of 2005, global forest cover was about 15 million square miles (about 4 times the size of the United States). Between 2000 and 2005, an estimated 7.3 percent of world forest cover was lost. The proposal to reduce emissions from deforestation and degradation, if done the right way, might be an opportunity to stop deforestation and reward indigenous peoples and other forest dwellers for conserving their forests. Indige-

nous agroforestry practices are generally sustainable, environmentally friendly, and carbon-neutral. When the World Bank launched its Forest Carbon Partnership Facility in Bali, it received a lot of criticism from indigenous peoples, who had been excluded from the conceptualization process in spite of the fact that they are the main stakeholders where tropical and subtropical forests are concerned. To remedy this weakness, the World Bank plans to hold consultations with indigenous peoples from Asia, Latin America, and Africa.

Since climate change is a global problem, the negotiation and implementation of international treaties are critical to addressing it. Indigenous peoples are asking to what extent international treaties are being implemented, whether those treaties are effective or sufficient, and why indigenous peoples have not been invited to be key players in the development of those treaties. Many indigenous peoples link the failure of mitigation efforts to the fact that the United Nations, other international bodies, and governments did not, until recently, even pay lip service to involving indigenous peoples in processes leading to their international agreements. Indigenous peoples were not consulted in the creation of the United Nations Framework Convention on Climate Change or the negotiations on the Kyoto Protocol.

Indigenous peoples believe that in order for global climate change mitigation efforts to be successful, they must be centrally involved as meaningful partners in these efforts, whether in the area of international agreements, scientific research, or technology development. And they point to examples of partnerships that are producing good results already.

In the northern tropics of Colombia, for example, the indigenous peoples of San Andrés de Sotavento are partners in a project with the Environmental Corporation of the Sinu and San Jorge Rivers, the Colombian National Agricultural Research Organization, and the International Center for Tropical Agriculture. This clean-development project aims to regenerate 6,500 acres of degraded tropical savanna by reforesting and establishing silvopastoral systems, which combine forestry and animal grazing in a way that reinforces both. This will yield increased income for landowners and a healthier ecosystem.

In northern Australia, Aboriginal landowners, indigenous representative organizations, and Darwin Liquefied Natural Gas are partners in the Western Arnhem Fire Management Agreement. This partnership aims to implement strategic fire management practices across 11,000 square miles of Western Arnhem, thereby reducing fire-generated greenhouse gases and offsetting some of the emissions from the liquefied natural gas plant at Wickham Point in Darwin Harbor. (The problem is significant: wildfires in northern Australia release an estimated 240 million tons of CO_2 each year, representing 38.5 percent of the Northern Territory's total greenhouse gas emissions.)

Women carry their ration of food, after fleeing their homes in the village of Abyei, Darfur. Although these women were displaced by violence, scenes like this one will become common as indigenous communities are displaced by drought, flooding, and other climatic disturbances. There are no international agreements yet for dealing with that problem.

UN Photo/Tim McKulka

The project uses strategic dry-season burning to break up the landscape with firebreaks that make it more difficult for wildfires to spread later in the year. This project is not gaining income from carbon trading. Instead, indigenous fire managers are being paid for fire management that produces greenhouse gas offsets. The involved parties believe, however, that this project would qualify for carbon trading in the future, should the market arise.

Indigenous peoples all over the world are greatly concerned about climate change, not only because they are affected by both the problem of climate change and international attempts to mitigate it, but more importantly, because of the contributions that they offer for mitigation and adaptation strategies. There are many strategies that can be used effectively to slow climate change and help adaptation to it, such as sustainable land and resource use, sustainable forest management, sustainable agriculture, the protection and enhancement of sinks and reservoirs of greenhouse gases, and small-scale, community-managed renewable energy systems. If these strategies are implemented so as to take into account not only the ecological dimensions of climate change, but also the dimensions of human rights, equity, and environmental justice, they will also protect and conserve the territories of indigenous peoples. ■

This article is adapted from a longer report titled "Impact of Climate Change Mitigation Measures on Indigenous Peoples and on Their Territories and Lands" presented at the seventh UN Permanent Forum on Indigenous Issues in April 2008. Victoria Tauli-Corpuz is the former chair of the forum. Aqqaluk Lynge is the vice-chair of the forum and the Arctic regional representative.

A polar bear outside Barrow, Alaska. Photo by Gary Braasch (see book review on page 47).

In most quarters, the US government decision to list the polar bear as a threatened species was heralded as a milestone in awareness of global warming, but the people you might expect to most rejoice in the decision—the Arctic indigenous peoples who suffer the greatest effects of global warming—are strongly opposed to it.

By Cameron M. Smith

As the thin end of the global warming wedge begins prying apart the foundations of traditional life in the Alaskan Arctic, you might think that the native people there would welcome the federal listing of the polar bear as a threatened species. After all, everyone loves polar bears (Knud, the Berlin Zoo's über-cute furball, appeared on the cover of the May 2007 *Vanity Fair*, photographed by none other than Annie Leibovitz), and they bring tourism dollars to the Arctic, raising awareness of global warming at the same time. But the Iñupiat—the indigenous people around Barrow, for whom the bears are a cornerstone of their traditional hunting culture, along with whales, seals and caribou—argue that listing the polar bear as threatened won't save it. And as I explored the polar bear's frozen-sea habitat on the north coast of Alaska in the winter of 2007, I came to understand their point of view.

Dragging my supply sled toward my base in Barrow one frigid morning—it had been 30 below the night before, and I didn't dare to check the temperature before I crawled out of my sleeping bag—I recalled the simple wonders of the past week. I'd heard the Arctic described as a wasteland, but nobody who'd taken the time to walk here could call it anything less than a thriving ecosystem. Cold, yes, but without question thriving, electric with life. I wanted to learn what native people thought about what was being done to protect this priceless wilderness in the face of increasing oil and gas exploration, and I thought the proposed listing of the polar bear as a threatened species might help smooth the way.

But Billy Leavitt, an Iñupiat hunter who picked me up on the outskirts of Barrow, blew that idea to pieces with a few words. As we tore down an ice road in his battered pickup truck, and a 60-below windchill blew through an open window—just about

killing me but cooling him nicely—Billy gestured at the landscape, speaking in long, flat vowels and drawn-out consonants.

"It's too warm for this time of year," he said, "That global warming is really happening."

"Yeah, I hear the polar bear is in trouble," I replied, trying to sympathize. Billy tensed up.

"No," he said, "That's your Greenpeace people sayin' that. That's your *conservationists*,"—he spat the last word—"people who watch that Discovery Channel and then come up here to tell us how to hunt." I considered myself a conservationist, but I had no reply to that conversation-stopper. I sat there wondering what else I might be wrong about.

Still, Billy cordially shook my hand when he dropped me off in Barrow, inviting me to come to his cabin out on the land. "You'll learn a lot," he said. Although I didn't have a chance to visit him, I did take another trek, and learned a little more about his point of view. On March 7th, the residents of Barrow (over 60 percent Iñupiat) met with representatives of the U.S. Fish and Wildlife Service, the federal agency then considering listing the polar bear as threatened.

The Iñupiat Heritage Center, where the meeting was held, is a modern, multi-million-dollar facility at once a museum displaying relics of pre-contact life, a meeting hall, and a work area where walrus-hide boats are sewn together in preparation for whale-hunts. Once everyone's snowmobiles had been parked it was quiet in the meeting hall, but the atmosphere was tense. A handful of Fish and Wildlife presenters sat at a table in the front of the hall, looking out at a hundred mostly native Barrow residents, who awaited the government's presentation with patience, but no smiles.

An Iñupiat man prepares his boat for a whaling expedition. Photo by Rudy D'Alessandro

The meeting began with the government representatives presenting their case for listing the polar bear, supported by two main points. First, the polar bear's sea ice habitat has been steadily reduced in the past 30 years, a finding of 5 independent studies that nobody can deny: today, satellite imagery shows us an Alaska-sized hole in the summer sea ice cover, where 30 years ago it was a solid sheet, and the prediction is that by 2050, most of the Arctic Ocean will be ice-free in the summer, driving polar bears either to adapt to land in that season, or go extinct. The Iñupiat agreed with this, saying in fact that they'd been trying to raise the alarm over global warming for years. Still, they let this point slide.

Second, Fish and Wildlife argued that polar bear populations are already in decline, as seen in a study of the western Hudson Bay polar bear population, which they claimed has decreased by over 20 percent in the last 20 years. The Iñupiat weren't so sure of this; like their Canadian counterparts, the Inuit, they believed that polar bear numbers were actually up, but that the bears had migrated out of the scientists' survey areas. Still, Fish and Wildlife concluded that while over-hunting, disease, and other factors do not threaten the polar bear throughout its natural range, it should be listed as threatened because of the well-documented decline of sea ice.

Then the Iñupiat took the podium. For two hours they presented their own testimony, questioning Fish and Wildlife's assumptions and facts, and making a strong case for entrusting the survival of the polar bear not to regulations dictated from Washington, D.C., but to the Iñupiat and other native polar people.

It's not surprising that the Iñupiat's discussion of polar bear biology, behavior, ecology, habitat, and population was more sophisticated than that of the Fish and Wildlife representatives; after all, the federal representatives had flown in from Washington or

Billy Leavitt, an Iñupiat hunter, tells the author about how well-meaning conservationists are meddling in things that the Iñupiat understand much better. Sketch by the author

Anchorage, and would fly out in a day or two, while the Iñupiat lived their entire lives in the polar bear's habitat. They were not new to the polar bear, and they weren't impressed by 30-year studies that Fish and Wildlife called "long-term." The Iñupiat had cultural knowledge about polar bears—and the rest of their ecosystem—that went back far longer. "As the ice retreats," one hunter said, "some bears will follow it, and others will get stranded on land, like some of them are now, when the ice retreats in the summer. Those that follow the ice will survive, and those that live on the land will have to adapt, just like their ancestors did." Glenn Sheehan, executive director of the Barrow Arctic Science Consortium, pointed out that the polar bear had been living with climate changes for more than 200,000 years, and that it had survived at least one other warming episode, the Medieval Warm period. "Have you considered that at all?" he asked the Fish and Wildlife representatives. "Do you even have data going back more than 50 years?"

The Iñupiat speakers included common citizens, native hunters, several whaling captains, and North Slope Borough mayor Edward S. Itta, all of whom looked hard into the eyes of the Fish and Wildlife representatives. After all, in this modest meeting they were doing nothing less than fighting to prevent yet another important part of their traditional life from being wrested away from them by a distant federal agency.

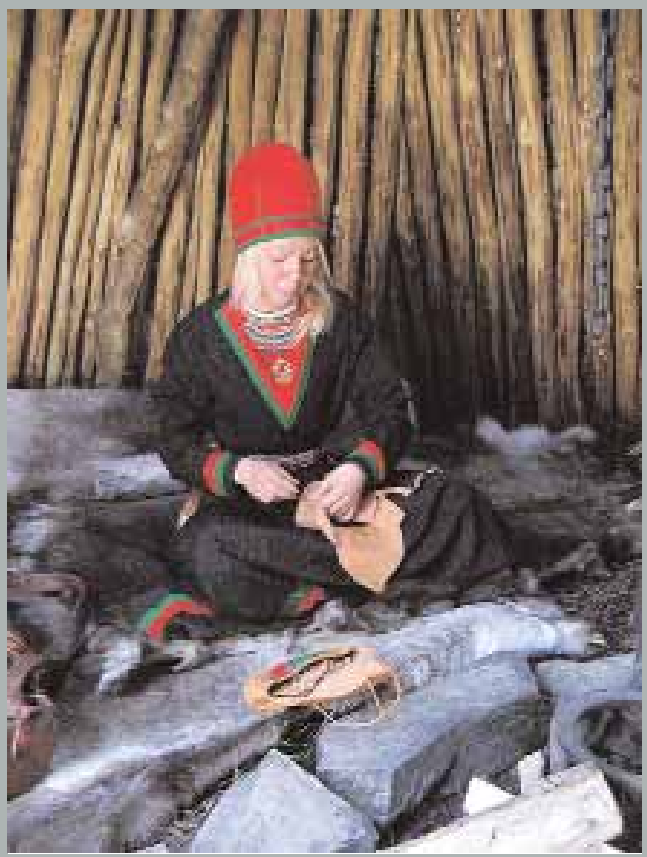
The Iñupiat based their opposition to polar bear listing on three main facts. First, in their experience polar bear numbers were not declining, an observation also noted by native Canadians on Hudson Bay, who say the decline there has been misunderstood by scientists who drop in from time to time, but fail to understand polar bear migration behavior. One resident pointed out that scientists were fond of saying they needed "holistic, long-term studies" of the polar bear, but were—insultingly and stupidly—ignoring exactly that kind of knowledge by relying on studies that "only went back a generation or two." Mayor Itta sharply pointed out that the Fish and Wildlife study did not actually have empirical data for the population increase or decrease of polar bears in northern Alaska, only projections and estimates based on the Hudson Bay population, 4,000 miles away. If the tables were turned, Itta noted, Washington wouldn't respond to hypotheses or hearsay; they'd want real, empirical data, and the Iñupiat deserved the same. In short, Fish and Wildlife's data on the polar bear population was largely theoretical (they had admitted this in their own presentation), and based on no more empirical facts or observations than the Iñupiats' own. The implication was clear to all: who would you rather

continued on page 20

The Big Thaw

By Mattias Ahren, Sweden

I am of the Sami people, indigenous to northern Sweden, northern Finland, and the Kola Peninsula in the Russian Federation. I come from a reindeer herding community on the Swedish side of the family territory. I'm also an international lawyer specializing in indigenous rights. The big challenge for reindeer herders is the prediction that temperatures will increase on our land by about a half a degree per decade. With this will come increased precipitation, which means more snow. The big problem is that when temperatures are not stable there is thawing and freezing, creating a layer of ice that the reindeer have difficulty penetrating. They have to break the ice to get the lichen, which is their primary winter food. To move that snow and ice takes more energy, meaning that some animals will die, and those that remain will not breed well and will be in poor physical condition. Weather change is not the only challenge; as it changes so does the vegetation. The tree line is now moving north up the hills. This results in increased shadows in the grazing lands. That, in turn, results in grass taking over where there used to be lichen, and lichen is very important for the reindeer in the winter because it's energy rich. The forests in general become less suitable for pasture. For reindeer herders this means decreased herds and fewer reindeer to sell. This, in turn, pushes reindeer herders out of their traditional livelihood and the base of the culture. Reindeer herders are very important keepers of the Sami culture.



A Sami girl stitches reindeer hide. These herding people are affected by climate change in a range of subtle but serious ways. Photo by Phear Kath

If we still had control on our traditional land we could tackle this problem much more easily. This is not the first time we have faced changes in the environment; in the past we could adapt by moving to different places. The problem now is that we have the Swedish populations living in our lands. Our grazing areas have decreased substantially, and we are pretty much stuck in the remaining lands we have today. There are too many people using the same area for mining, tourism, road building, military shooting ranges, etc. For us, climate change is not the only challenge. Actually, it's only one thing of many that stresses us in a very, very pressured system.

Because of our traditional knowledge, we knew about climate change before the scientists got involved. Our eldest saw it raining in our country in the winter, when it had never rained before. We knew that something was not right, and now we know that this was an early sign of global warming. I think it took far too long for society to take this matter seriously. They would not listen to us because they said our conclusions were only based on traditional knowledge; it was not science. Now they listen, but the irony is that the solutions they are trying to impose may only increase the pressure on our territories. Some areas of Sweden are very rich in uranium, and there are still some wild rivers that could be used for hydroelectric plants. But using these resources as a way to stop global warming will further reduce the grazing areas and migrating paths of the reindeer and result in an immediate threat to the entire Sami culture. And there is another irony: the Arctic is very, very rich in other resources. Many of these, however, have not been economically feasible to exploit because of the thick ice. But with global warming the ice is melting and the tundra is warming up. This makes the oil, gas, and mineral resources accessible to industry, and the use of these will then speed up global warming, making even more of the resources in the Arctic accessible, further speeding up global warming, and so on. At the same time, it destroys more and more of our territories. So this is a very, very bad circle for humankind in general, but it can be totally detrimental for indigenous peoples in the Arctic.

This text is adapted from a press conference during the sixth session of the UN Permanent Forum on Indigenous Issues.

An Iñupiat drummer in Barrow, Alaska. Sketch by the author

trust about these numbers—the people who live in the area and observe the polar bear population day by day, or federal government monitors?

The Iñupiats' second point was that they simply don't take enough bears to threaten the species, only about 20 a year. Indeed, Fish and Wildlife's own study concluded that over-hunting was not a threat in Canada (because of sound management policies there) or Alaska (because of the 30-year old Marine Mammal Protection Act). Barrow Arctic Science Consortium president and native hunter Richard Glenn told Fish and Wildlife, "If you want to address over-hunting, go to Russia, where they poach 200 polar bears a year!"

The third point, mentioned time and again, was summarized by Mayor Itta: "Listing the polar bear does not address the problem!" Whaling captain Charlie Brower said, "The problem—pointed out in your own study—is shrinking sea ice, which is caused by carbon dioxide emissions!" The Iñupiat said that listing the polar bear as threatened does nothing to address sea ice retreat; it's just a measure meant to make people of the Lower 48 feel as though they're "saving the polar bear" when in fact they're doing nothing at all.

Listing a species as threatened or endangered is meant to force federally backed action to preserve that species' critical habitat. If that habitat isn't delineated, however, the listing has little value. In this case, the Fish and Wildlife Department found that the bears' habitat needs were "undeterminable." The proposed listing did not mention greenhouse gas or carbon emissions at all, an omission that was made overt when Secretary of the Interior Dirk Kempthorne announced the official threatened listing for polar bears on May 18, 2008. "The most significant part of today's decision," he said, "is what President Bush observed about climate change policy last month. President Bush noted that 'The Clean Air Act, the Endangered Species Act and the National Environmental Policy Act were never meant to regulate global climate change.'"

If the polar bear's critical sea ice habitat isn't defined, the Iñupiat argued, and its reduction isn't linked to human-induced warming brought about by greenhouse gas emissions, then listing the polar bear will not work as a lever to force action on climate change.

In short, the science brought by the Fish and Wildlife representatives to justify listing the polar bear as threatened looked great on paper, but was incomplete—even to other scientists—and ignored Iñupiat traditional knowledge. And putting the polar bear on the endangered list wouldn't stop illegal poaching in Russia, or the sea ice from retreating, or anything else that was actually affecting polar bear populations. In fact it would mask the real issue of climate change.

The Iñupiat solution was for Washington to address climate change head-on by legislating global-warming preventatives, and leave the polar bears to the native peoples of the Arctic. After all, they are subsistence hunters who manage animal populations so that they will be there in the future. The word "sustainable" has been in the American consciousness for about a generation, while it has been the cornerstone of Iñupiat life for millennia. Not taking their lead in this issue would be a terrible loss of opportunity, especially considering that they are living on the front line of global warming, where change is felt first and foremost. ■

Dr. Cameron M. Smith, an archaeologist at Portland State University's Department of Anthropology, has recently published The Top Ten Myths About Evolution *(Prometheus, 2006) and has written articles for* Scientific American MIND, Archaeology, Spaceflight, Playboy *and other magazines. He returned to north Alaska in February 2008.*

Many news stories have sent up alerts about the imminent drowning of Pacific islands. But for people living on Kiribati the real problems are happening right now.

By Austin Blair, assisted by Casey Beck Photos by Casey Beck and Austin Blair

Uriam reclined comfortably on his *bwia* and eyed his son-in-law, who was smiling as he shuffled up the path of the family's home, struggling to carry a 15-horsepower Yamaha outboard motor. It was early afternoon in the family compound, and people gathered around as he set the motor on its stand. Two women lay out coconut frond mats on the ground as another man appeared, lugging a large sack. Chuckling, he dumped more than 70 fish onto the mats.

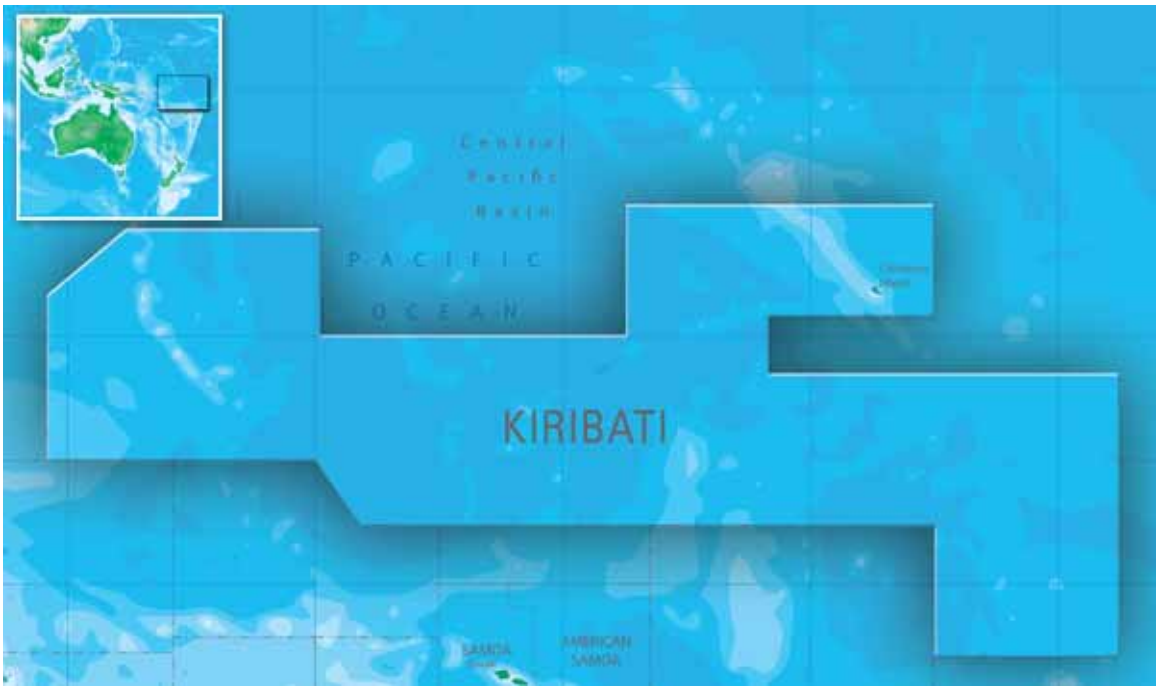
From his nearby *bwia*—the large, open-air structure used as both living and dining rooms in Kiribati households—78-year-old Uriam sat up and adjusted his Coke-bottle glasses.

As his lips parted into a wide, toothless grin, the head male elder of Maiana Island remarked, "Now *that's* a catch," and glanced playfully at me. I couldn't help but feel a little shy, remembering the glum looks on the family's faces the day before, when I had returned with my pathetic catch of six fish. I had to acknowledge that we *I-matangs* (Westerners) don't share the I-Kiribati knack for fishing.

Fish is the dietary staple on the island chain nation of Kiribati, and the unloading of fish is a daily scene at Uriam's home, but the nature of fishing has changed.

"Before, you could hang out there under the sun, no problem," Uriam told me as his daughter began to prepare lunch. "Now, if you're out there fishing you can feel it. Or, if you're out working, you just feel the heat. It's very hot."

Bikeman Island, once known as the Land of the Royals, used to be a sizeable and verdant island in the middle of Karawa Lagoon. Now it's a strip of barren sand, visible only at low tide.
Photo by Casey Beck



While there still may be plenty of fish, hotter temperatures on this equatorial atoll are just the beginning of observable climatic and environmental changes.

The previous week, I saw the devastation of another traditional source of food, the *babai* tuber crop, which is grown in pits. Torote, Uriam's eldest son, stood over a barren six-foot-deep pit on the family's land and explained that many islanders were having trouble with seawater washing overland and entering pits. It not only kills that crop, he told me; the seawater is tainting the water supply of the people.

Tarai and Tamaoaieta pass the hottest hours of the afternoon in the shade of the *kia-kia* with their grandchildren. Most I-Kiribati work in the more tolerable hours of early morning and late evening. Photo by Casey Beck

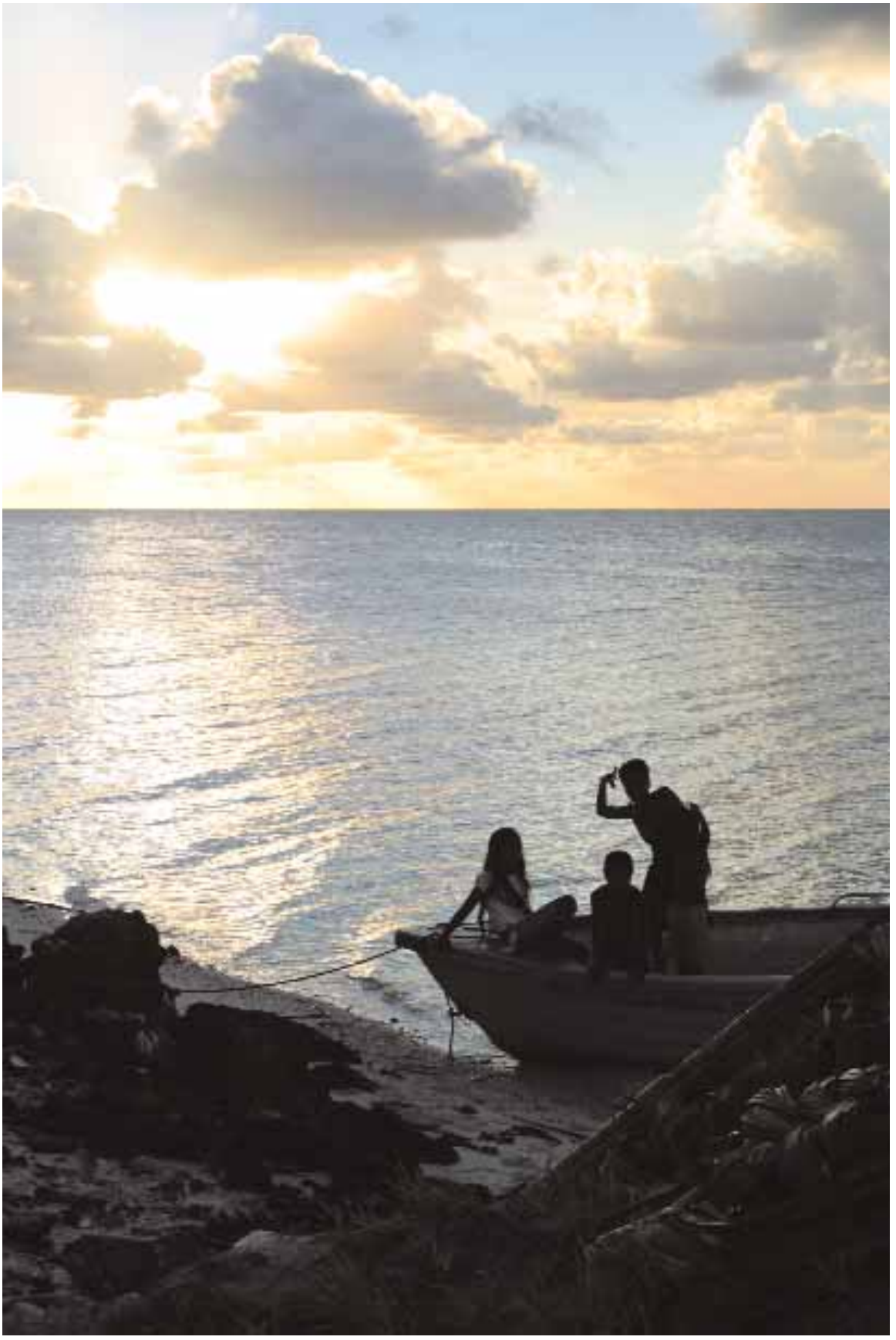
And Not a Drop to Drink

Back on Uriam's main property, a three-foot-wide hole awaited construction of the family's new well. In the coming days, a group of neighbors would bring bags of coral, sand, and imported concrete to help Torote build his father a well closer to the center of the island, where water is more abundant. Their old well, across the island's only road, had become increasingly brackish in recent years.

The availability of fresh drinking water is critical on an equatorial coral atoll. Kiribati's slender strips of land, never more than a half-mile across and rarely more than several hundred yards, store rainwater in a freshwater lens—an underground layer of fresh water that floats atop a layer of denser ocean water. As ever-higher high tides penetrate these atolls' porous coral foundations, they foul the only reliable source of fresh water.

When I first arrived on Kuria Island, I met Donna and Katherine, two Peace Corps volunteers, who were teaching in the island's primary and middle schools. I asked for water, desperately hoping to rehydrate after a 26-hour boat ride on the open Pacific, and they looked at each other sheepishly. "I don't think we have any," Donna admitted. I was shocked. "What do people drink?" I asked. They told me that many of the wells were brackish but agreed that the well in the middle of the island near the middle school would probably have water. They lent a bicycle and five-gallon jug to a local boy to investigate the well and retrieve some water if it happened to be there. It hadn't rained, they explained, for the past five months.

Most islanders prefer pure rainwater to brackish well water, but acquiring the several-thousand-gallon tanks to store rainwater is financially im-



Children of local fishermen play in a fishing boat during the waning hours of the day.
Photo by Austin Blair

Teramira wraps dried pandanus leaves into large rolls. I-Kiribati women use these leaves to weave a variety of household products, such as mats, curtains, and traditional clothing. **Opposite:** Mangrove trees on Maiana Island. Photos by Casey Beck

possible for individuals. On Kuria, Peace Corps volunteers worked with local teachers to apply for a grant from New Zealand for two such tanks for their school. They received the grant and were told that the tanks would be sent from Tarawa by boat. But in the few-day journey from Tarawa, one of the tanks slipped off the boat. No replacement would come—the application process had to begin anew.

Today, one water tank sits in the center of the school compound, attached to piping from the roofs of school buildings, which collect rainwater. Without rain, however, the tank remains empty. With marginal water storage capacity, the people of Kuria will continue to rely on wells for the foreseeable future.

"Water is a serious problem," Kiribati's President, Anote Tong, told me. "The likely infringement of the saltwater into the freshwater lens would be a serious problem. Any substantial change in weather patterns would also be a huge problem for us. Water has always been a problem, whether the sea level was rising or not. We are a hearty breed in a sense." He said that the I-Kiribati survive in ways people from the developed world might find hard to understand, particularly on the country's outer islands.

Life on outer islands is so much harder than life in the capital, Tawara, that islanders are increasingly choosing urban life ("urban," here, is a relative term).

A subsistence lifestyle, like that practiced on the outer islands, is necessarily climate dependant. Those who live directly off the land will be most affected by climate change. These people are the world's small-scale farmers, herders, and fishermen—people whose livelihoods depend on annual climatic constants.

The frustrating reality is that those who need protection most from the immediate effects of climate change tend to live in countries like Kiribati that are least equipped to provide it. Whereas the larger, industrialized countries responsible for over 80 percent of all greenhouse gas emissions can develop new technologies or move people to higher altitudes if coastal lands are flooded, the peoples of the small island nations do not have such options.

Though many I-Kiribati are making simple changes like transitioning *babai* out of their diet because it is increasingly difficult to grow, some islanders are already beginning to feel the more severe environmental and climatic changes.

"Because of the heat," says a woman named Tarai on Kuria Island, "the coconuts dry up in the tree, and it's very hard [for them] to fall." Many

islanders like Tarai and her family rely on revenue from the sale of dried coconut meat, or copra, the nation's leading export. The four-day process of producing copra garners roughly $25 for one harvest.

Coconut palms not only generate income but also provide food, both for people and livestock; *toddy* (a sweet drink used extensively in I-Kiribati cooking that also becomes alcoholic when fermented); and materials for mats, roof thatch, rope, and firewood. Without coconuts, the I-Kiribati traditional lifestyle becomes impossible.

On southern Maiana, high tides have overrun seawalls, destroying a major coconut plantation and creating a barren stretch of land locals call the Lake. Locals complain of the increasingly frequent need to repair the handmade coral seawalls that, in some cases, are their only shield against higher tides. Uriam told me that in the past few decades, they have rebuilt the main seawall three times.

In February 2007, a king tide washed up 50 yards inland on Kuria. This tide, which brought water up to people's waists, forced islanders like Tarai's daughter to relocate their families farther inland. Tarai's daughter abandoned five buildings on her family's property.

While Tarai's family was fortunate to own a large swath of land on Kuria, for most families on outer islands, moving inland is more difficult. On the more crowded capital island, relocation is out of the question.

Today, South Tarawa is reeling under the weight of the now-more-than 50,000 residents. As half of the nation's population crowds onto the capital island, its resources are heavily strained. With no functioning sewage system, islanders do as they always have and use the sheltered waters of the lagoon as a toilet. With so many people resorting to this method, the lagoon now has dangerously high levels of bacteria, and there is widespread disease too severe for the island's two hospitals to handle. Human rights workers have estimated that over 95 percent of children have intestinal worms.

A People Without a Place

President Tong understands only too well the imminent nature of the rising sea level and its predicted effects on his country. He told me the international community has been blind to the current and future problems Kiribati is experiencing with rising sea level and threatened water reserves.

"There's nothing we can do about reversing the process [of global warming]," he told me, "We've screamed, we've shouted at international fora, but with very little effect. But in terms of how we will respond to the impact of climate change—yes indeed, we do have a number of options. We must have a number of options."

> "Do we still have sovereignty of Kiribati when there is no longer the country of Kiribati?"

From what I witnessed, it seemed to me the only option would one day be mass migration. I cautiously introduced the topic of the I-Kiribati as environmental refugees with President Tong. He acknowledged the sensitive nature of the issue but added, "I hesitate to call our people refugees: we would train them, and they would become people who would contribute to whatever country they choose to live in with meaningful lives."

Back on Maiana, Uriam also reflected on the fate of Kiribati: "When it's time, I think our people will evacuate the island, Kiribati." He grinned and added, "They will probably go to America or Australia or New Zealand." Immediately his smile faded and he turned, staring off toward the lagoon.

An astute leader, President Tong fears that the situation will reach crisis level before the international community takes notice. "Can we remain nationals of Kiribati when we are living in Australia?" he asks. "What would be our citizenship?

continued on page 27

Children on their kaupapa (sleeping platform) watch as their village on Funafuti Island, Tuvalu, is swamped by rising sea waters. Photo by Gary Braasch (see book review page 47)

Paradise Lost

By Malia Nebrega, Hawai'i

Extreme climates and weather events have had serious environmental and economical consequences on all the islands and for all of the peoples of the Pacific. For example, in the Federated States of Micronesia, many of our atolls have run out of water. In the Marshall Islands, the United States had to bring in large-scale desalination plants to provide water for the people. In Tuvalu the island will soon be gone, and our people will be forced to relocate to other places. They are really concerned about staying within the Pacific and near their island. Some of their concerns are that they will lose their sovereignty of their nation because as they are forced to relocate in other places and they will have a loss of culture, a loss of a lot of their rights. In other places, like Samoa, they've been faced with many tropical cyclones, which have caused a lot of damage to coastal areas and forced our people to move inland from the outskirts of our islands or to be relocated to other places.

The rise of sea levels and the increasing temperature of our ocean are also a major concern to us because they are affecting our fisheries, which are a big part of our lifestyle in the Pacific. Another important part is mangroves, which allow us to build much of our housing and provide a lot of our timber and things that we need in our day-to-day lives. The mangroves also provide nurseries for our fish. In Palau drought led to a 30 percent reduction of taro patches, which affected one-third of the population. This is why I think its extremely important that indigenous peoples are always involved in these discussions and that it is not left up to just countries and agencies.

This text is adapted from a press conference held during the sixth session of the UN Permanent Forum on Indigenous Issues.

A family's *buia* on Kuria Island. It is all that remains of Tarai and Tamoaieta's daughter's household after a king tide ruined her property in February 2007. Photo by Casey Beck

Do we still have sovereignty of Kiribati when there is no longer the country of Kiribati? These are issues that I think at this point nobody is ready yet to address."

While President Tong's concerns may remain unaddressed for decades, the realities of immigration from low-lying island nations are surfacing in international politics. Currently, New Zealand is the only country accepting I-Kiribati immigrants. Speaking to the New Zealand deputy high commissioner to Kiribati, I learned that each year they accept 75 I-Kiribati along with several hundred other Pacific islanders, such as Tongans and Tuvaluans. Immigrants must demonstrate a means for supporting themselves, though the New Zealand government will help with assimilation. The deputy commissioner stressed that this is a "good neighbor policy" and, as of now, New Zealand has no official policy concerning environmental refugees.

Kiribati's fishing rights are an important consideration, given the prospect of mass migration. Most developed countries will not accept a significant number of refugees from any nation without something in return. However, Kiribati has a significant natural resource: an ocean of 1.31 million square miles that includes very lucrative commercial fishing grounds.

Revenue from the sale of fishing rights is a critical portion of Kiribati's gross national product. Many major countries in the Pacific Rim, including Australia and Taiwan, currently covet these fishing rights, a situation that brings new weight to President Tong's questions of sovereignty in the face of environmental disaster. Who would control fishing rights on this massive stretch of ocean, if the zone in question included no habitable land?

The night I returned to South Tarawa from Kuria, I noticed an eerie string of lights on the horizon. They were sodium vapor work lights of large Taiwanese fishing boats stationed in the lagoon to fish for tuna for the next month.

As the conspicuous ships in the lagoon suggest, the Taiwanese have maintained a prominent presence in Kiribati since President Tong established diplomatic ties in 2003. Like many other Pacific island nations, Kiribati has taken advantage of tension between Taiwan and China, exchanging recognition of Taiwan for aid.

Since then, Taiwan has built numerous small gardens and several fisheries on South Tarawa as part of an agricultural aid program. They have also donated two large trucks and two pickup trucks to each of the outer islands, along with a small fleet of trucks for South Tarawa. These

Who would control fishing rights if there is no inhabitable land?

trucks, with "From Taiwan" painted on the doors, serve all transportation needs for outer islanders.

While Taiwanese aid projects may be the most visible, other foreign donors also contribute large sums. Australia, the biggest donor, supplies $15 million a year, with another $4 million coming from New Zealand. Kiribati's national budget, including aid, is about $65 million.

Aid from Japan took a different form. Occupiers of South Tarawa during World War II, the Japanese have since built a two-mile-long concrete berm connecting the most populous islet, Betio (pronounced Base-oh), to the rest of South Tarawa.

A coral atoll, the rim of an extinct volcano, is often a string of islets instead of a continuous strip of land. Unobstructed ocean water filters in and out of an atoll's lagoon, providing a natural cleaning process. In the case of South Tarawa, the berm effectively sealed off the lagoon. While the connection was a boon for business and transportation, the berm has significantly altered currents, making it impossible for the lagoon to flush completely, creating a stinking cesspool.

Another environmental consequence of the berm is the disappearance of Bikeman Island in the center of Tarawa lagoon. Over the past 10 years, changing ocean currents have transformed Bikeman from a verdant, popular, day-trip destination into a desolate patch of sand that only emerges at low tide. Foreigners and environmental activists want to use Bikeman's disintegration as evidence of rising sea levels, but locals tend to blame the causeway.

Because of all the development efforts, life in Kiribati exists within the balance between a desire for modernity and the appeal and comfort of tradition. The influx of televisions and DVD players, modern junk food and Western movies is fueling an exodus from the outer islands. But Kiribati is not suffering from the brain-drain that often accompanies much of the push toward modernity. Certainly, for the vast majority of I-Kiribati on

The women of Maiana Island practice a dance for Kiribati's 28th independence celebration in 2007. Photo by Austin Blair

The *unimwane* on Maiana Island gather for a meeting to discuss the island's affairs. In traditional Kiribati society, the unimwane are the respected form of government.
Photo by Casey Beck

the outer island, who live at a subsistence level, moving out of the country unaided is an economic impossibility. But moving away is not necessarily appealing, anyway.

The lure of the I-Kiribati lifestyle remains undeniable. The slow pace of life on the outer islands, where there is little need for money, possessions, or work, beyond gathering food and tending the land, seems to be enough to keep older generations away from South Tarawa.

Education beyond the middle school level, however, is only available on a few outer islands. The same is true for job opportunities. For outer islanders looking for more education or work for wages, moving to South Tarawa is the only option.

Kiribati Steps Up to the Plate

On my first night on Maiana the town's greeting council, a group of middle-aged women, threw a *botaki*, or party, for me. Every guest at a botaki is expected to give a speech. When it was my turn, I told the women, who were dressed in matching homemade outfits and garlands of fresh flowers, that I was there to learn about Kiribati culture in the face of climate change. I explained climate change to them, and their immediate reaction shocked me. If burning gas is contributing to climate change, one woman said matter-of-factly, then we should use our generators less. The others nodded in agreement.

Kiribati uses the fourth-smallest amount of oil of any country in the world and both produces and uses the sixth-lowest amount of electricity. Yet, when these women learned that their actions, however insignificant, might contribute to climate change and affect others around the world, their first reaction was to reduce their own consumption.

In the face of devastating climatic changes, the I-Kiribati people remain optimistic. Most are not ready to discuss the eventuality of leaving their homes or the realities of how they will define their culture once outside their borders. Until such a time, the I-Kiribati, like Uriam and Tarai's families, will continue to adapt as best they can. ■

Casey Beck and Austin Blair are recent graduates of Tufts University. See more of their work at www.therisingtidekiribati.org.

Indigenous peoples don't only suffer from the effects of climate change; in some cases they suffer from the solutions to climate change.

By Victoria Tauli-Corpuz and Parshuram Tamang Photos by Eric Wakker

The most logical approach to stopping carbon dioxide emissions is for countries, especially industrialized countries, to reduce their fossil fuel consumption and cut back on emissions drastically. But the UN Framework Convention on Climate Change (the 1994 parent treaty of the Kyoto Protocol) took a more market-based approach, as seen in the proposals of the Kyoto Protocol. Annex 1 countries (38 industrialized countries) pledged that by 2012 they will reduce their emissions by an average of 5.2 percent below the l990 levels. They will achieve this by buying "carbon credits" from countries or corporations that are below their permitted levels of emissions and by investing in projects that store carbon. None of the three market-based "flexible mechanisms" tackle directly the physical root causes of global warming: the transfer of fossil fuels from underground, where they are effectively isolated, to the atmosphere.

One of the most prevalent of these market-based schemes is the use of biofuels as an alterna-

tive to petroleum. The European Union's Biofuels Directive targets having 5.75 percent of transport fuel in Europe come from biofuels by 2010 and 20 percent by 2020. President Bush said in his 2006 State of the Union speech that by 2020, 30 percent of America's cars will run on bioethanol.

While US and EU farms are now extensively used to raise crops for biofuels, a huge supply gap remains. To address the demand for biofuels, Malaysia, Indonesia, Colombia, Ecuador, Nigeria, Côte d'Ivoire, and Papua New Guinea, among others, are rapidly expanding plantations of oil-palm. Malaysia and Indonesia are gearing up to supply 20 percent of the market in Europe and have just announced that they will set aside 40 percent of their palm oil output for biodiesel.

Oil palm (*Elaeis guineensis*) is a native plant of West Africa that has been traditionally used as food, medicine, woven material, and wine. Oil palm can be grown and harvested in an environmentally friendly way, as it has been in Western Africa by small-scale planters who undertake diversified agroforestry. But countries, multilateral funding institutions, the UN, and the private sector—including private banks and bilateral donors—support a large-scale agroindustrial model. Oil palm plantations have become one of the fastest-growing agricultural projects in the tropics, not only in Africa, but also in the Asia-Pacific region, Latin America, and the Caribbean.

The main product of these plantations is palm oil (stearin and olein) from the trees' fruit and seeds. In l997 it was estimated that oil palm plantations occupied 16 million acres and produced 17.5 million tons of palm fruit oil and 2.1 million tons of palm kernel oil. By 2005, palm oil production reached 30 million tons and the area covered comprised 30 million acres. Of this, 10 million acres are in Malaysia and 13 million acres are in Indonesia.

Indonesia has the highest rate of forests being converted into oil palm plantations. Between 1967 and 1997 oil palm plantations there increased 20-fold, with 12 percent average annual increases in crude palm oil production. From 261,000 acres in 1960, oil palm has grown to almost 15 million acres, although government reports say there were around 44.5 million acres of forests purportedly cleared for oil palm in 2006. (It appears that loggers used the heading of "oil palm plantations" as a justification to harvest the timber.) In 2006, the government announced new plans, under the Kalimantan Border Oil Palm Mega-Project, to convert an additional 7 million acres in Borneo, of which 5 million will be in the border of Kalimantan and Malaysia—an area on which thousands of forest-dwelling people are dependent for their livelihood.

The promoters of oil palm claim that plantations will reduce unemployment, alleviate pover-

Facing page: A hillside cleared for an oil palm plantation in Malaysia.

Left: The fruits of the oil palm.

Climate Change and High Altitude Communities

By Lakshan Bibi from the Hindu Kush

I represent the Kalash community of Hindu Kush. High altitudes are the wider part of our way of life. The third-largest mountain in the world, called Teverchmere, reaches 27,000 feet and hangs over our land. The area we live in consists of 90 percent mountains—only 10 percent of our land can grow a crop, and then only once in a year. The land holds more than 503 villages that survive mainly on goats and cattle and farming based on glacial melting water. Due to global warming, our indigenous way of life has suffered because of flooding and avalanches. This condition never existed before. Just last year a piece of glacier the size of Central Park broke off and swept away an entire village. Thank God that due to indigenous knowledge of early warning, there were no lives lost.

Usually the month of March is avalanche season in the Hindu Kush and the Himalayas. This year, March 19, 2007 our land was devastated by avalanche, flooding, and rocks falling. Animals were swept away, the water channel was destroyed, indigenous houses collapsed, and communication was cut off from the rest of the world. The avalanche again swept away a whole village, this time killing 78 people. Many people left their villages, and thousands of animals were killed—the only livelihood of indigenous people. Drinking water became muddy for months. Such extreme conditions threaten the very existence of many of these indigenous peoples.

According to the research of climatologist Lonnie Thompson, our glaciers are melting away at a rate of 197 feet a year. If this pace continues, indigenous peoples of the Himalaya and Hindu Kush may be forced to leave their homes. The method to cure this devastating situation is to stop greenhouse gases.

This text is adapted from a press conference held during the UN Permanent Forum on Indigenous Issues, May 2007

In 2002, palm oil earned more than $3.8 billion for Malaysia.

ty, and bring environmental benefits—all claims that are highly contested. Clearly, the main reason for the dramatic expansion of oil palm plantations is that these provide big profits to domestic and international plantation owners and investors. These megaprofits are ensured by cheap labor, low cost of sale or rent of land, ineffective environmental controls, high demand, high yield per hectare, low production costs, support from multilateral and bilateral donors, and a short growth cycle. Palm oil production also enjoys the strong support of governments because the crop is mainly geared for the export market, which generates foreign exchange. In 2002, palm oil produced more than $2.1 billion in export revenue for Indonesia and $3.8 billion for Malaysia.

Although oil palm has decided economic benefits for the key players, it comes with serious social and environmental costs for indigenous peoples, forest-dwellers, and tropical rainforests. And the number of those affected is substantial. Out of the 216 million people in Indonesia, for example, 40 million are indigenous peoples who depend mainly on forests and natural resources.

For them, the forest is the basis of their sustenance. Subsistence has formed part of their profound symbiotic relationship with the forest for millennia, shaping their societies, their worldviews, knowledge, cultures, spirituality, and values. They have evolved strict spiritual and customary laws and sophisticated land tenure concepts, mostly under communal ownership. They have also developed resource-management systems that ensure that their needs are met and that forests are protected from destruction. The integrity of the forests is crucial for indigenous peoples, as it represents the past, present, and future aspects of how to live in reciprocity with nature.

The burgeoning development of large-scale plantation economies is part of the story of the erosion and appropriation of indigenous peoples' territories and the alteration of their indigenous land tenure systems. The cycle of plantation development begins when the government grants forest areas as concession areas; the next stage is the clearing or destruction of forests, followed by the establishment of the plantations themselves. As these plantations are meant to produce crops for the market, they are logged after a short period, and planting begins all over again. In these processes indigenous peoples are either evicted from these forests areas or their access to the forests is curtailed, and a few people are absorbed as seasonal workers.

This factory produces crude palm oil. The surrounding plantation clearly shows the impact of this industry on natural forest.

One of the millions of old-growth trees cut down to make way for oil palm plantations in Malaysia.

Unfortunately, there is a great deal of political will and financial and technical support for macro-economic reforms that intensify pressure on indigenous lands and resources and that decrease the capacity of governments to regulate corporate behavior. New financial mechanisms, such as the Prototype Carbon Fund of the World Bank, are set up to strengthen the carbon market, and huge loans are provided to the private sector to expand biofuel production.

Meanwhile, there is woefully inadequate funding and technical assistance to help countries implement laws that protect indigenous peoples' rights to lands and resources and meet their obligations to international human rights conventions and treaties. Land demarcation, land titles for indigenous communities, and ethnodevelopment projects are all underfunded.

To make matters worse, amidst all the hype about the environmental benefits of biofuels, scientific studies are emerging showing that large-scale biofuel production is an energy intensive CO_2-emitting and polluting process. The energy balance of biofuels—the amount of energy required to produce one unit of biofuel energy—is hotly debated, with several experts claiming that it takes more energy to produce biofuel than the fuel itself produces. Unquestionably, the burning of the forests in Indonesia to prepare oil palm plantations contributed to CO_2 emissions.

In the immediate past, indigenous peoples' territories have been skimmed of their oil, gas and coal deposits in name of development. Now, in the name of saving the world from global warming, their lands are again viewed as a means to providing solutions. The expansion of plantations for biofuels, the development of carbon sinks, and carbon emissions trading are exacerbating indigenous peoples' existing land problems. Converting complex ecosystems to monoculture carbon sinks and treating CO_2 emissions as a tradeable commodity lead to adverse social and environmental impacts and directly contradict the basic worldviews and values of indigenous peoples who have used their resources and lands in a sustainable manner. The justification of trade in emissions consists of distorted technical, legal, economic and intellectual devices that perpetuate the inequalities in this world. Because global warming has become a business endeavor that offers opportunities for capital accumulation, it is another repetition of dominant societies taking over indigenous peoples' lands. ■

This article is adapted from a longer paper titled Oil Palm and Other Commercial Tree Plantations, Monocropping: Impacts on Indigenous Peoples' Land Tenure and Resource Management Systems and Livelihoods *presented at the sixth session of the UN Permanent Forum on Indigenous Issues in May 2007. Victoria Tauli-Corpuz was chair of the UN Permanent Forum on Indigenous Issues; is the president of Tebtebba, an indigenous rights organization in the Philippines; and is a member of Cultural Survival's board of directors. Parshuram Tamang is the vice-chair of the Permanent Forum on Indigenous Issues, an International Coordinating Committee member of the International Alliance of Indigenous and Tribal Peoples of the Tropical Forests, and the chair of the Indigenous Nationalities' Campaign for Human Rights.*

WINDFALL

The typical Native American community is marginalized and ignored, and its people are too often poor. But many western Native American reservations have an abundant natural resource that is suddenly in great demand: clean wind energy.

By Megan Gray Photos courtesy of Bob Gough

Around the world indigenous peoples are suffering enormous hardship from climate change, but in the western United States, some Native American tribes are seeing climate change as an opportunity for economic self-sufficiency. Consider the Rosebud Sioux Tribe Reservation in south-central South Dakota, where in 2003 the tribe erected the first Native American owned and operated commercial-utility-scale 750-kilowatt wind turbine project on reservation lands. Producing 2.4 million kilowatt hours per year of renewable, clean electricity (enough to power 240 typical American households), the Rosebud turbine is also connected to the national power grid, offering the tribe the opportunity to sell green power to the federal government at the Ellsworth Air Force Base, and any remaining surplus energy to utility companies.

Although Rosebud was the first reservation to install a commercial wind turbine, it is far from the only one to pursue harnessing the wind. There are wind turbines on the reservation of the Mandan, Hidatsa, and Arikara Nation in North Dakota and on land owned by the nonprofit Alaska Village Electric Cooperative in Kasigluk, Alaska. The Intertribal Council on Utility Policy (COUP), a consortium

of northern Plains tribes, is promoting tribal wind across some twenty Great Plains reservations which are all connected to the federal hydropower grid. Intertribal COUP was founded to help navigate the complex issues that arise in the emerging native renewable energy markets. With persistent drought conditions in the western United States over the past decade, wind can provide reliable electricity without consuming precious water.

The Rosebud Sioux Tribe, a founding member of Intertribal COUP, now plans to install a new 30-megawatt wind plant this year on their reservation, which has an abundance of class 5 and 6 winds (wind power is assigned a class ranging from 1 to 6, with 6 being the windiest). Neighboring Sioux tribes on the Pine Ridge, Yankton and the Flandreau Santee Sioux Reservations are also looking to wind development to provide clean electricity and local employment.

The ultimate goal for renewable energy projects on reservations is "to provide tribes with the opportunity to build sustainable homeland economies based upon renewable energy generation with the sale of clean energy into both federal and private markets," says Bob Gough, secretary of the Intertribal COUP.

"Fossil-fuel extraction costs are heavily subsidized by the taxpayers," says Gough, explaining the importance of wind energy, "and the price of pollution, legislated caps on insurance liability, unproven long-term nuclear-waste storage proposals, and impacts on public health and environmental quality are put on society's collective tab." In addition, federally funded hydroelectric dams built in the mid-20th century rely on rivers that are now running dry. The Western Area Power Administration markets and transmits electricity from federal hydroelectric power plants throughout the United States. It has been coping with a drought-induced 50-percent decrease in hydroelectric power by increasing coal-fired electricity production.

"For our own survival," Gough says, "we need to begin to think about *windsheds*, not just watersheds. There are abundant untapped resources on American Indian reservations across the Great Plains that can benefit not only the American Indian people but also everyone living downwind along the Great Lakes to New England. Looking just at the northern Great Plains, there is a potential contribution for the equivalent of about one-half the total installed electric capacity for the entire United

Preceding page: The completed Rosebud Reservation wind turbine.

Right and following page: The Rosebud turbine under construction.

Spirituality and Climate Change

By Robert Borrero, Puerto Rico

I'm from the Pawigua-Tienu civilization, or the indigenous people of the island of Puerto Rico. Tienu also exist on other Caribbean islands—Cuba and the Dominican Republic—and we also have our neighbors and relatives, the Caribbean people who live on Trinidad, Dominica ,and other islands. As indigenous peoples of small islands, we're very concerned about climate change. One of the things that is very important to us is the effects on coral reefs. The bleaching of the coral reefs strongly effects our fishing economies. The other concern is increasing temperatures affecting the growth of medicinal plants and plants used for traditional practices. That's important not only for our physical well-being but, depending upon our community, its also important for our spiritual interaction with the world around us. As the plants start to disappear, we lose that spiritual aspect of who we are, the relationships to the plants. We are also losing certain endangered animals that are are a part of our creation stories. Their disappearing also takes away from our cultural heritage. This is a real tragedy, especially as we've already been subject to 500 years of colonialism.

This text is adapted from a press conference held during the UN Permanent Forum on Indigenous Issues, May 2007.

States. Reservation-based renewable energy is a no-regrets strategy for tribal energy self-sufficiency and for addressing global warming."

In addition to environmental and economic benefits, there is a cultural component to wind power. "For many tribal peoples, the winds are holy, bringing renewal, warmth and strength," writes Intertribal COUP President Pat Spears, a Lower Brule Sioux. "For the tribes, the renewing winds will sustain both the people and their lands with local jobs, clean electricity, community-building revenues and healthy air and water." The installation of commercial utility-scale wind turbines will also create changes in the traditional landscape of the western tribes. Wind turbines can be as tall as a 25-story office building, and in the flat prairie they can be seen 10 to 20 miles away "in parts of the landscape that might rarely see something taller than a cottonwood or a Ponderosa pine," as Gough describes it.

The initial Rosebud project represented a steep learning curve for tribal energy planners. "We were very conscious," Gough says, "of using the single turbine project to learn as much as we could about the energy industry and regional electrical utility grid system to pave the way for larger projects fol-

"We need to begin to think about windsheds, not just watersheds."

lowing this one." Funding was a major factor in the development scheme. The total cost of the project was supported by three major sources: a Department of Energy grant, a loan from the Rural Utility Service, and funding from NativeEnergy, a for-profit company with a majority share owned by the nonprofit Intertribal COUP on behalf of its member tribes.

NativeEnergy brokers renewable energy credits, also known as green tags, to companies that want to offset their carbon emissions. The idea behind green tags is to make the environmental benefits of clean energy a tradable commodity. Fossil-fuel-dependent companies and individuals can purchase the clean energy created by wind, solar, tidal, and geothermal projects to offset their own carbon production. Clients of NativeEnergy who purchase green tags include Ben & Jerry's, Green Mountain Coffee, Aveda, Stoneyfield Farm, and the Dave Matthews Band. Initially capital intensive, projects like the Rosebud wind farm have already proven that they are more than worth the investment: NativeEnergy's portfolio of renewable energy carbon offset programs is outperforming its projections by 115 percent.

Whereas most green-tag brokers sell credits from existing renewable energy projects, NativeEnergy sells credits from the construction of new projects, like the one on the Rosebud Reservation. NativeEnergy's business model matches investors' dollars with start-up, small-scale renewable energy initiatives that would rarely get off the ground without significant initial financial support from outside sources. NativeEnergy pools their investors' money into a lump-sum payment to buy the carbon offsets created by a renewable energy project. "The promise of additional revenue for the renewable energy credits, to be paid up front to the project once it achieved commercial operation, was a valuable component of the overall project financing and helped the Rosebud Sioux Tribe to make the final decision to move ahead," Gough says. "As the project approached completion, it became clear that the payment from NativeEnergy was critical to both the coverage of costs associated with this first turbine and the work that the tribe began for the expansion of wind development on the Rosebud Reservation."

NativeEnergy partners with Native Americans, family farms, and other rural American communities to create local economic growth. The idea is that a sustainable new economy emerges from the installation of renewable energy projects. Portions of the energy produced can be diverted to homes and businesses, and local workers are needed to build and maintain new infrastructure.

The success of the Rosebud project attracted the attention of a local utility company, which made a bid for the surplus energy it produces. The utility is also buying the green tags that will be produced by a new project, the Owl Feather War Bonnet Wind Farm. This is the fulfillment of the dream the Intertribal COUP had at the inception of the Rosebud project: to create a new economic and energy option for native peoples, and to share the model, creating a new market for clean energy.

The Intertribal COUP envisions a lot of growth for reservation communities from the proceeds of carbon trading. Too many people on plains reservations are living in unhealthy and energy-inefficient housing, including FEMA trailers delivered in the wake of a tornado a decade ago. Gough would like to see the construction of ecologically sound structures such as greenhouses for growing produce locally, powered by clean wind energy and providing local jobs. Pat Spears has the same orientation: "The tribes can also use energy audits, weatherization projects and local natural materials like straw bale and earthen plasters to create local jobs, save energy and money, and enhance the quality of life." He envisions projects such as, "installing solar or wind systems at tribal schools facing increased utility costs and at tribal residences located too far from the local power lines to be able to afford expensive interconnection costs on top of monthly utility bills." As it stands, reservation households are 10 times less likely to be electrified than other U.S. households. A reservation-owned utility running on clean wind power would make a major difference in this statistic. Along the way it could provide an economic boost to isolated communities and help the global environment—and all of it a Native American initiative. ■

Megan Gray is a communications officer at Cultural Survival.

Culture in the Crosshairs

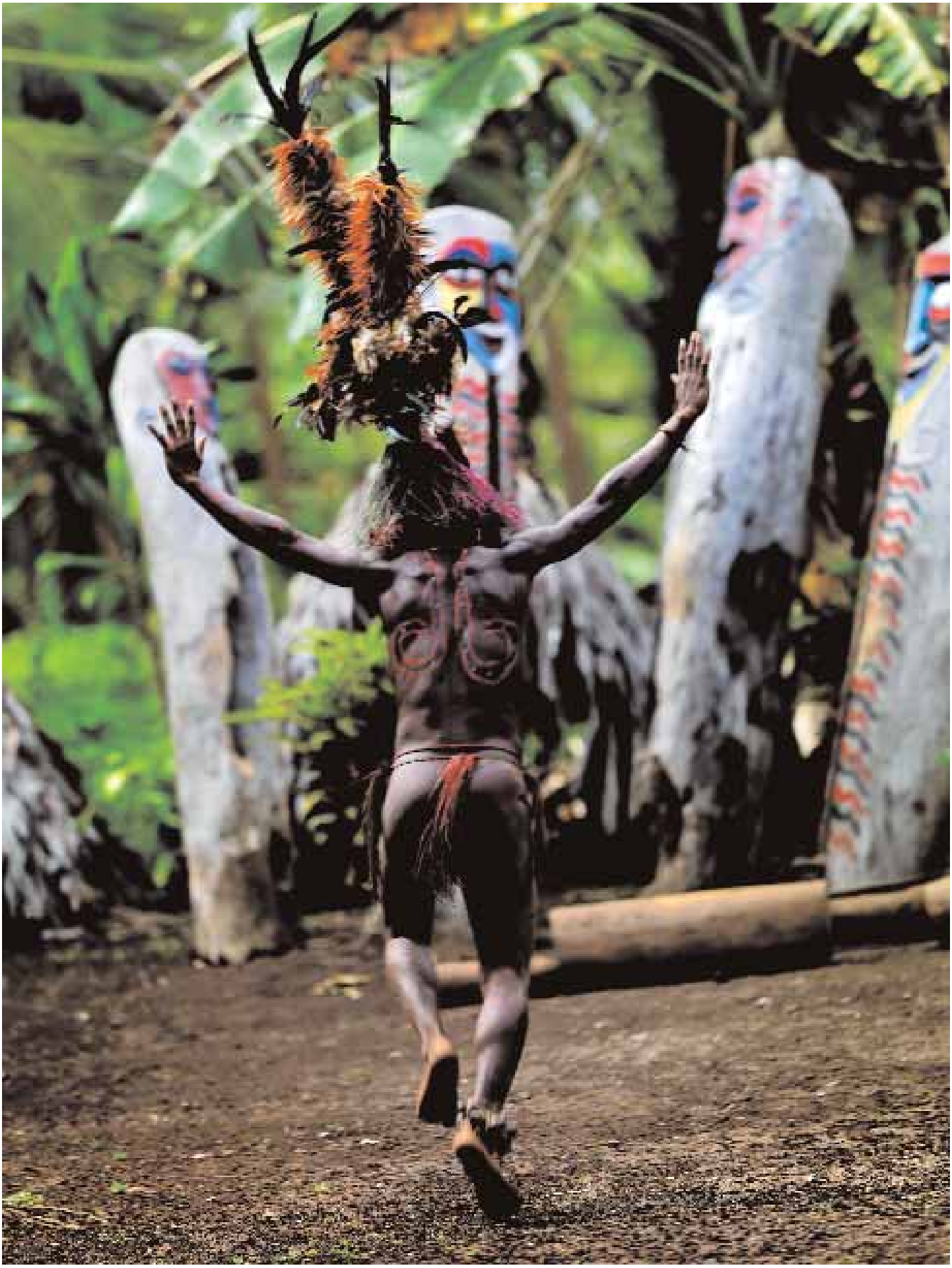
In December 2006, the residents of Lateu, a coastal village on the island of Tegua in the Pacific island country of Vanuatu, became the first official climate change refugees when rising seas swamped their homes. The government moved the community to higher ground inland, but much of the Teguans' lives was tied to their original village site, and the people have had to make fundamental changes to survive in the new location.

Vanuatu is one of the world's most culturally diverse places. With a land area the size of Connecticut and a population of about 200,000, the nation has 113 distinct languages and many hundreds more dialects, spread across 83 islands. The people are mostly of Melanesian descent, and most indigenous communities in Vanuatu still live traditional lives, based on raising root crops and pigs, adhering to elaborate kinship structures, and maintaining strong spiritual practices.

Formerly known as the New Hebrides, Vanuatu lies about 1,000 miles east of Australia and suffered the usual colonial history, being controlled jointly by France and Britain until 1980, when the country achieved independence. For nontraditional communities in Vanuatu, the economy is based largely on offshore financial services and tourism, mostly concentrated in the larger towns on the islands of Efate and Espiritu Santo. But the majority of the population is rural and traditional.

In 2007, photographer Eric Lafforgue traveled to Vanuatu to document indigenous peoples' lives on several islands and to see what is at risk as the climate continues to change and seas rise higher. Even a cursory glance at these pictures indicates how little these communities contribute to the climate change problem, yet they are among the most drastically affected peoples on earth. ■

Eric Lafforgue is a photographer based in France. He specializes in traditional culture around the world. His book Papous, *which documents Papua New Guinea's indigenous peoples, was published in Europe in 2007. Some of the photos from that book appeared in the winter issue of* Cultural Survival Quarterly. *You can see more of his work at www.ericlafforgue.com.*



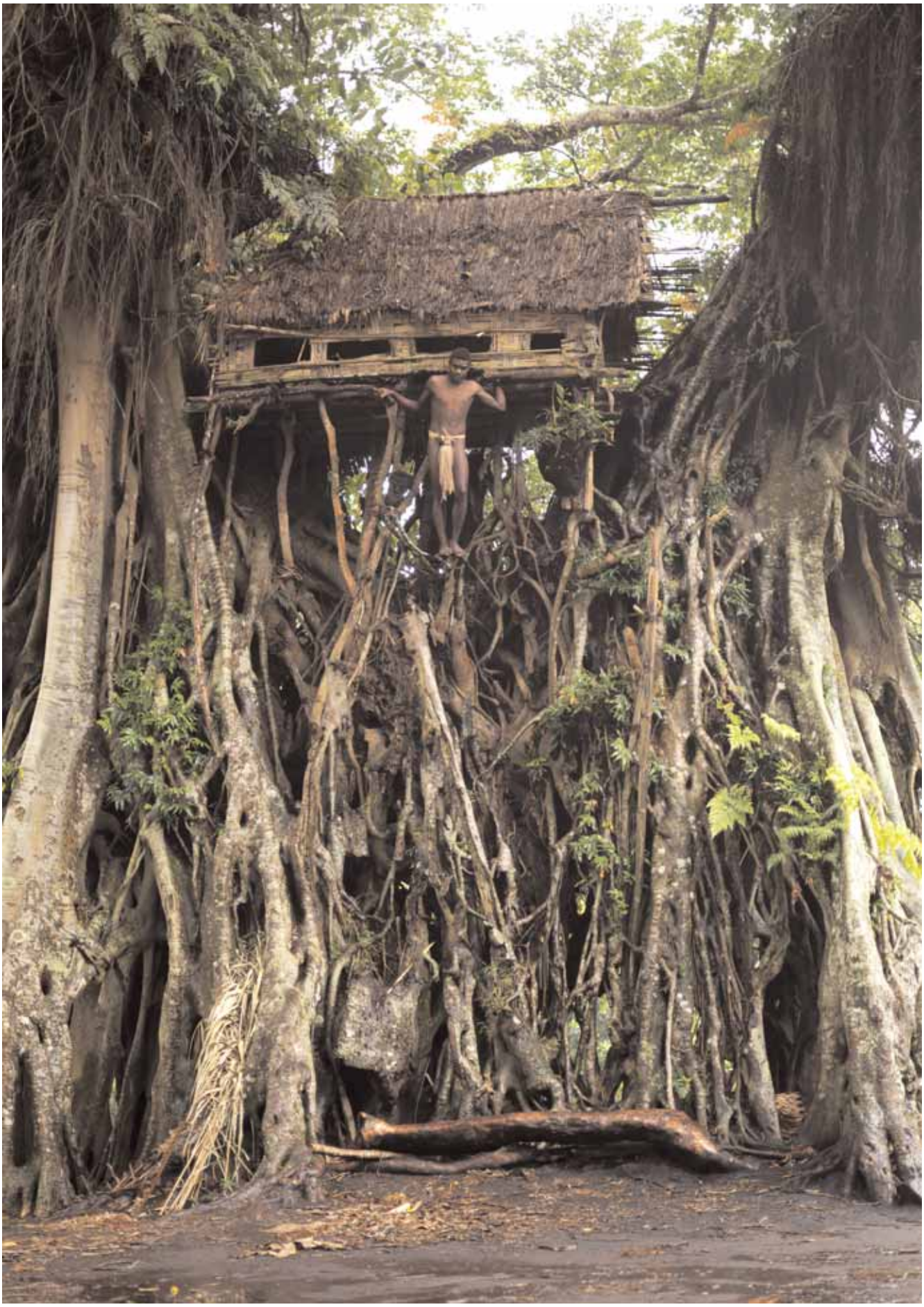
Above: On Malekula Island, a Big Nambas man uses a shell to call the people from the fields for a dance.

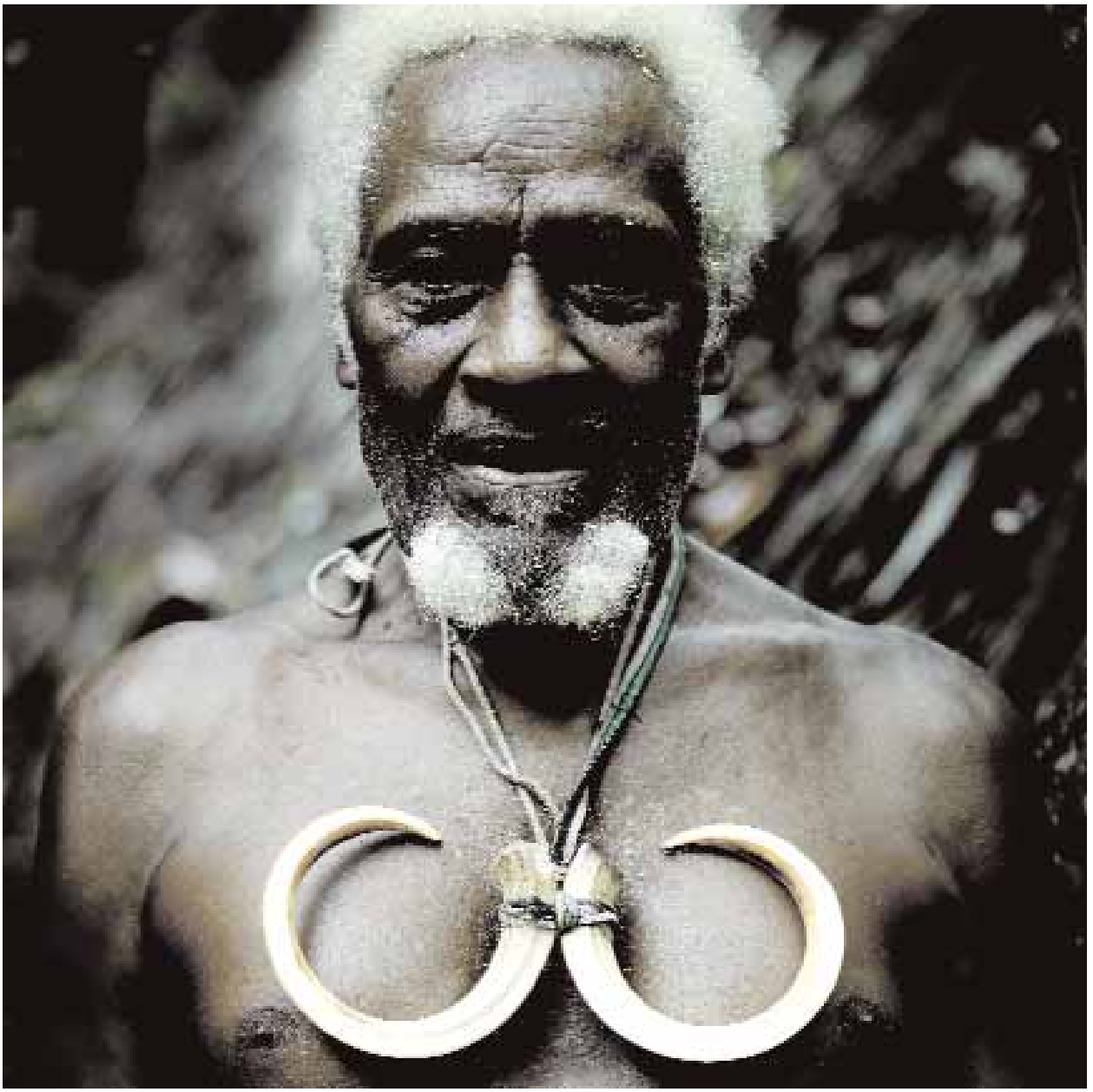
Below: A Malekula Island girl.

Right: A boy on Espiritu Santo uses a stick to make a sand drawing. Each drawing tells a story; this one is about a pig in a field. Despite the complexity of some drawings, the stick must stay in the sand and is never removed. In 2003, Vanuatu sand drawing was proclaimed a Masterpiece of the Oral and Intangible Heritage of Humanity by UNESCO.

Previous Page Left: Girls on the island of Esperitu Santo.

Previous Page Right: On Malekula Island, a Small Nambas dancer in Gortengsier Village. "Nambas" is the word for the leaves used to cover the penis.





Left: The house atop the banyan tree is dedicated to circumcision. The young boys of the village stay inside before and after the ceremony. Tanna Island, Vanuatu.

Above Right: Chief Jean-Denis, Ambrym Island.

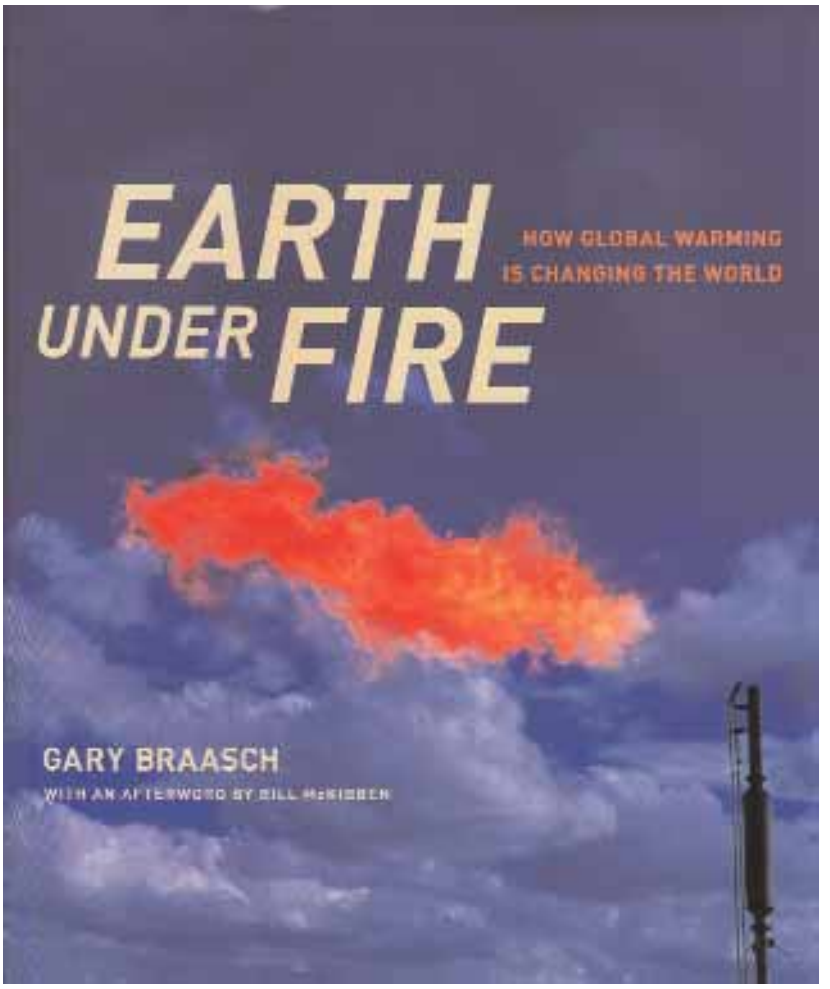
Right: In Gortengsier Village, Small Nambas people dance. Malekula Island.

Global Marketplace

Earth Under Fire: How Global Warming is Changing the World

By Gary Braasch
University of California Press 2007
ISBN 978-0-520-24438-2

Reviewed by Mark Cherrington



Earth Under Fire might, at first glance, appear to be the kind of book you've seen before, one of the ever-growing number of treatises on the issue of global warming. But while the subject may be familiar, Gary Braasch's approach to it is unusual, and most welcome. As he says in the introduction, "Because many popular books and articles on climate change have been based on predictions, which are easily dismissed, I wanted to look at the earth itself and report on the changes I saw that were already underway." That quest took him seven years, with trips to every part of the planet. And his reporting from those places is based on his interviews with the two groups of people who have the most direct knowledge of climate change: field scientists and indigenous peoples.

He relies most heavily on the former, but *Cultural Survival Quarterly* readers will be happy to see that while the indigenous presence is smaller, the views and experiences of indigenous people are taken just as seriously as those of the scientists. He interviews Iñupiat people in Alaska and Inuit in Nunavut, and he describes the dramatic ways in which their world is changing. Braasch also traveled to Tuvalu, one of several Pacific island nations that are quickly disappearing beneath rising seas.

The information he brings back is not, in its broad outlines, new. The Arctic and Tuvalu are the first stops on any discussion about climate change, since they are most obviously affected. And the fact that glaciers are melting and species are shifting is not going to be a headline anywhere these days. But because Braasch—who is best known as a nature and landscape photographer—has based his book and his travels in the work and lives of the people most knowledgeable about the issue, the details and explanations are far richer and more informative than usual. He doesn't just list the disappearance of Adélie penguins in Antarctica, for example, but talks about how their falling populations mirror the falling numbers of krill—the tiny shrimp-like creatures that are the basis of many Antarctic food chains. And that, in turn, is the result of melting ice. The krill need ice to create the habitat necessary for reproduction, and as sea ice is melting, the krill numbers are dropping, too. This sort of ecological relationship thinking, seeing chains of causation and consequence, is typical of both scientists and indigenous peoples, and it puts the subject of climate change in a very different light—as he points out, if the krill disappear, several whale species will be in severe danger.

Another striking discussion in the book revolves around polar bears. The scientists Braasch is visiting describe finding four drowned polar bears in a recent survey. Polar bears are strong swimmers that routinely cover miles of open ocean, so to find a drowned bear is extraordinary—the scientists said they had never seen one, and here were four at once. The only reasonable conclusion is that the bears were swimming much longer distances between ice floes and were not able to keep going. That image of floating polar bear bodies is a particularly grim icon for the whole issue of global warming.

The photographs in the book are more functional than Braasch's usual work, but entirely appropriate to the subject and no less affecting. Perhaps most striking is the picture of villagers in Bangladesh packed onto a tiny islet that is quickly eroding out from under their houses. No one seeing that image can doubt just how seriously indigenous peoples are affected by climate change—or how substantial the threat is to all people. ■

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México Lives Through Its Artisans

Indigenous populations, and their diverse cultures, play an important role in the current and historical reality of Mexico. According to the *Instituto Nacional de Estadística, Geografía e Informática* (INEGI), Mexico's Census Institute, in 2005 there were 85 different Indigenous populations in Mexico and 6 million people, ages 5 and up, spoke another language, some of the most prominent being Náhuatl, Totonaca and Choco. Five million of Mexico's 90 million people, ages 5 and up, were bi-lingual and spoke Spanish. Many of these groups have been an integral part of our culture and country's growth. Today, many of Mexico's indigenous populations have found that in order to continue their presence in this global village they have to embrace, protect and promote their own cultural identities.

Mexico has encouraged the development and sustainability of Indigenous populations through a variety of efforts, one of them being the creation of *Comisión Nacional para el Desarrollo de los Pueblos Indígenas* (www.cdi.gob.mx), the National Commission for the Development of Indigenous Populations. The commission aims to educate, coordinate, promote, support, stimulate, and evaluate programs, projects, strategies and laws to ensure the integration and rights of Mexico's Indigenous populations.

Another way the Mexican government has helped promote and develop Indigenous populations is through el *Fondo Nacional para el Fomento de las Artesanías*, (www.fonart.gob.mx) the Nacional Fund for the Promotion of Artisans. Fonart connects local artisans with buyers and places specific high-quality products on the national and international markets. By strategically promoting the sale of these products the Fund hopes to improve the standard of living and help preserve Indigenous cultures.

Currently Mexico is one of the world's premier destinations and it is hard to imagine the promotion of Mexico without its heritage, costumes and traditions, gastronomy and its artisans. Oaxaca, for example, has attracted tourists for its many highly developed traditional offerings such as its black talavera, alebrijes and modern applications of traditional embroidery. Other destinations that have developed tourism interest through its Indigenous hospitalities are Jalisco with its Huichol craftsmanship and Taxco with its world-known silver creations.

Tourists, make up one of the most important factors of sustaining and protecting the cultures of Indigenous populations. Mexico's popular outdoor fairs, handicrafts stores and upscale shopping malls provide countless possibilities for shoppers to find unique gifts for friends and family. Mexico City has become a very popular destination as a shopper's wonderland, as products from all over the country make it to its many stores. *La Ciudadela* is an extensive crafts market located in the city center where one can find everything from masks to hammocks to ceramics, all at excellent prices; for a more exclusive environment shoppers should visit the trendy shopping area of Polanco.

Another famous market is the *Mercado Libertad* in Guadalajara, Jalisco. This is the largest enclosed market in Latin America, with more than 1,000 vendors selling local blown glass, leather goods and all kinds of local and regional handicrafts.

A message from the Mexico Tourism Board