

When Worlds Collide

Why can't conservation scientists and indigenous peoples just get along?

By SUSAN MILIUS



Philip Tuwaletsiwa, a Hopi geographer, picks an incident out of a lifetime of culture clashes: A tourist all agog at half-heard tales about Hopi land asked Tuwaletsiwa's wife, "Where are the power places?" Tuwaletsiwa sighs. The sentimentality. The need to view the Hopi as a fulfillment of another people's dreams. Power places? "Tell her that's where we plug in the TV," he said.

Tuwaletsiwa, who is based in Kykotsmovi, Ariz., told this story at a gathering of about thirty scientists, conservationists, and policy makers from industrialized societies. The group convened in Front Royal, Va., in May to discuss how to keep collaborations with indigenous peoples from turning into cross-cultural train wrecks.

These partnerships may sound straightforward at first, says meeting organizer Peter Jutro, a U.S. Environmental Protection Agency scientist in Washington, D.C., and one of the U.S. negotiators for the United Nations Convention on Biological Diver-

sity. He had planned to set up such a project himself, searching indigenous traditions for clues to preserving ecosystems. Interesting idea, other scientists told him, but it's going to be tough sledding.

"I had no idea of how much suspicion and mistrust existed between conservationists and indigenous groups," Jutro says. "We have so much to clear away."

Jutro found himself going back to the basics on his project, trying to understand how outsiders and indigenous peoples could cooperate. In Front Royal, veterans of other cross-cultural projects shared their stories, filling big paper tablets on easels with list after list of keys to success.

Among other things, they agreed, outsiders need to get beyond sentimental stereotypes of indigenous cultures, accommodate slower time scales and different styles of decision-making, involve their partners in project planning and control, and establish clear communication.

Should project planners have learned all they need to know in kindergarten? The ideas are hardly novel. Meeting participant Janis Alcorn, a tropical ecologist from the World Wildlife Fund in Washington, D.C., acknowledges that "these lessons have been around for a while."

However, knowing about the mistakes other people made has not saved later projects from disaster. "It tells you that people aren't changing," Alcorn adds.

Take the plea from Tuwaletsiwa that outsiders, from campers to conservation fund-raisers, stop sentimentalizing indigenous peoples. For years outsiders have streamed into Hopi land. "They come by the thousands," hoping to find spiritual sustenance, he says. "They're not going to get it from us."

"What they do not understand is that you cannot export the Hopi religion," he

explains. "It can exist only here, where we have our shrines, springs, landmarks, materials, animals, plants, and hundreds and hundreds of years of belief and practice." Someone living away from the tribal land "cannot practice the Hopi religion," he says.

Tuwaletsiwa speaks not just from the bone-weary perspective of misunderstood traditional peoples. As a specialist in using Global Positioning System (GPS) technology to make maps, he also speaks as a modern scientist integrating a high-tech project with indigenous traditions. The tale of his project—mapping sacred sites—supports themes from the Front Royal meeting. Be patient. Communicate. Give people time to make up their own minds.

The mapping project grew out of concern for ancient Hopi sacred sites on land where the Navajo now live. To claim legal protection, the Hopi need to pinpoint the sites' locations, but the religion demands that they remain secret.

In this highly compartmentalized religion, no one knows all the sacred locations. Mappers had to consult each religious and clan leader. Explaining the options and waiting while people make hard choices demanded care and time.

Some leaders have chosen to keep their secrets, particularly for well-hidden, remote spots. But other Hopi have revealed sacred locations, especially where development looms or intruders have already desecrated shrines.

Even when leaders reveal the location, mappers still face challenges. Reaching a site can involve navigating rough country, with the constant danger of a vehicle getting stuck. "We have learned several advanced techniques for getting ourselves unstuck," Tuwaletsiwa says.

He has also had long treks on foot and difficult climbs, not always in friendly terri-

Needlework of the Kuna people (above left and below) has won hearts throughout the world, but arrangements for scientists to do research on Kuna land have proved difficult.



tory. "More than once we were asked politely, and not so politely, by our Navajo neighbors to get out," he says.

Then there are the special problems of using high-tech equipment without desecrating a religious site. "It is a dilemma trying to decide where we should place the [GPS] antenna," he notes. For shrines at which people leave offerings, he keeps equipment on the perimeter.

Despite the difficulties, Tuwaletsiwa and his colleagues have mapped more than 350 sacred sites.

Juan Mayr, a photographer and conservationist who has worked on land-use planning for decades with Kogi tribespeople, points out that cross-cultural collaborations twist, sputter, and slide along their own quirky timetables, regardless of what some linear-minded planner intended. Be prepared also for very different approaches to decision-making, he says.

In 1986, Mayr started, and continues to work at, the Fundacion Pro-Sierra Nevada de Santa Marta in Columbia to tackle the environmental and social problems of people on a coastal mountain. The Kogi there still rove from cluster to cluster of peaked circular homes. But advancing roads have brought waves of new settlers, not to mention political strife and a thriving drug trade.

Over the years, Mayr has shepherded the development of a comprehensive land-use and social plan for the region, taking care to involve all parties. When planners finished the fat document filled with maps, surveys, and proposed programs, Mayr's group had to figure out how to present it to the Kogi, most of whom don't read. The group organized puppet shows to explain the plan, staging at least 60 throughout the region.

Now the Kogi are deliberating on the plan's points, but not by a process outsiders can follow easily. "They think in circles," Mayr says.

To reach a decision, Kogi leaders drop beads into round bowls of water. Patterns of air bubbling out reveal whether to eliminate an option in an array of decisions. In working with the Kogi, planners from industrialized societies who can't shed hard-driving, goal-oriented ways may find their sanity bubbling away as well.

Differences in decision-making styles? Failure to involve local people? Let anthropologist Marcus Colchester tell about it.

What most distresses him is the way an area of 83,000 square kilometers in Venezuela's Upper Orinoco region was designated a biosphere reserve in 1991. The designation brought only skimpy legal protection to that part of the land where the Yanomami people live, contends Colchester, director of the Forest Peoples Programme in Moreton-in-Marsh, England. "It was really disheartening to those of us who thought this would be of some benefit to the Yanomami," he says.

European conservationists created and enacted the plan for the reserve with hardly any input from the people who live on it, Colchester says. "It's all top-down. The [Yanomami] themselves haven't got a mechanism to deal with this."

Of course, collaborating with the Yanomami requires considerable culture-meshing skill. They have hardly any rules to enforce authority, explains Colchester, who has lived among them.

Even the few accepted authority relationships the Yanomami do have may be difficult for outsiders to understand because of their complex manner of communication. For example, a man has clear authority over his son-in-law but never gives him an order directly. A daughter relays her father's demands to her husband.

Villages resolve problems in a style not found in the average European conference room. Colchester remembers a dispute over a community's prized canoe, which an enraged man chopped up when his wife ran off with a rival. Eventually the couple reunited, but villagers continued to grumble about the destruction of the canoe. Finally, a man who was, in a sense, the village leader had the canoe chopper publicly smacked with four blows of the flat of a machete. Then, according to custom, the leader accepted the same number of blows himself.

Letting a project take its direction from the local community may be bewildering, even frustrating, for outside partners, but it can make a huge difference in the long run, says Susan Ruddy of the Nature Conservancy in Anchorage, Alaska. She tells a tale of two environmental education programs.

The need for them was clear. One day, Ruddy was strolling near cliffs on St. Paul Island in the Bering Sea when she heard what sounded like gunshots. She couldn't believe her ears. Trespassing on the cliffs and disturbing their nesting birds in any way was forbidden, yet she found little boys from a nearby village merrily shooting real guns.

"We're playing Nintendo with the birds," they told her. Nintendo? They led her to their home and introduced her to a violent video fantasy that had shaped their view of the world.

Aleut communities on two islands in the region developed plans for environmental education programs. One plan, with a well-defined structure and clear-cut goals, fit the conservation planners' dreams. The other plan took a more casual approach, yet Ruddy and other partners resisted the temptation to try to force it into a stricter form.

Over the years, the more casual, down-home approach has prospered, outliving the one with the more organized plan. Thanks to the surviving education program, patrols from the community free marine mammals that get snagged in nets. Alert beach-watchers have also sent ducks drenched with oil to a wildlife laboratory. The lab identified the batch of oil and the ship was fined.

Giving up some of the control of a project to a partner from a different culture can lead to some frustrating outcomes, admits Ruddy. She remembers spending about a year negotiating to study resources in a native Alaskan village. The Nature Conservancy agreed with the local people that all the research results would become village property. The researchers would not keep even one copy.

Not long after the project ended, the village leader lost his position. For years now, Ruddy says, the research results have been lying useless under the deposed leader's bed.

Scientists should not forget that indigenous people are, after all, people, observes Laura Snook, a forester from Duke University in Durham, N.C. Plain old interpersonal chemistry made the difference in getting her own research results into use.

She works in the Mayan zone of Mexico, studying valuable but slow-growing mahogany trees. Her early results suggested that the trees grew even more slowly than foresters there believed, raising doubts about whether people should be logging as fast as they were. Not surprisingly, local foresters showed little enthusiasm for such findings.

Snook then moved to a different part of the Mayan zone, where the two local foresters happened to be female. "Women foresters—they're rare," Snook exclaims in a burst of happy camaraderie. Her new partners turned out to be more open to her ideas, and the collaboration is thriving.



ing. Based on Snook's research, the local people are changing the way they replant mahogany.

Snook also attributes the success of her project to her continuing efforts to involve local people. She leads tours of her study plots in the forest and presents periodic updates on her findings.

Failure to make that sort of effort can lead to disaster, says Mac Chapin, an anthropologist from the Center for the Support of Native Lands in Arlington, Va. He illustrates the point with the cautionary tale of how the Kuna people in Panama refused to renew the lease for a Smithsonian Institution research facility that had occupied their land for 21 years. The San Blas Laboratory, a center for studies of reef ecology, closed last month.

Chapin, who has lived among the Kuna, talked to both the local people and the laboratory scientists toward the end of the souring relationship. He blames much of the troubles on the scientists' failure to explain what they were doing. "Every six months they could have had a show," he says.

By the time the matter came to a head at a meeting of the Kuna congress in June 1997, accusations were flying: "Scientists were stealing their knowledge, stealing their reefs, stealing their sand," as Chapin

recounts the complaints. Younger Kuna activists concerned about exploitation of intellectual property—that is, how indigenous people get compensated for their lore—teamed up with some of the old guard, who had grown to resent outsiders.

According to Chapin, the researchers also made the mistake of negotiating just with the general congress of the Kuna, not recognizing the importance of nurturing good relations with local communities. "You've got to do a lot of human groundwork," he says. "The Smithsonian didn't think that was necessary." So, out went the scientists.

Chapin predicts escalating clashes between indigenous peoples and their sometime partners. Although the conflicts and concerns often get framed in terms of intellectual property rights, he believes that is "almost a sideshow."

He sees the bigger force for conflict coming from an international, commercial scramble for minerals, timber, and other resources. "It's an outright assault," he says. "It's worldwide."

Often trampled in this mad dash to cash in resources, indigenous people are starting to get tougher and fight back against outsiders, he notes. Scientists and conservationists can expect to bear some of the brunt of that opposition. Chapin says, "I think it's heating up." □

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off-the-drugstore-shelf hydrogen peroxide killed many pathogenic bacteria—not only on foods but also on kitchen counters. An archived Food for Thought on the research is at our website (go to http://www.sciencenews.org/sn_arch/9-28-96/food.htm). Sumner put each sanitizer in a separate plastic spray bottle and then moistened the object to be disinfected with each spray. It doesn't matter which comes first. Because the treatment is nontoxic, it need not be washed off. —J. Raloff

I was interested to read the article about wash-resistant bacteria. I grew up in Saudi Arabia. Since we had no idea who might have touched the produce brought in for us or what was used for fertilizer, practically the first thing we learned upon our arrival was to wash all fruits and vegetables in a solution of chlorine bleach and water.

It appears that perhaps I should return to this regimen even for food raised in the United States!

Christine Crawford-Oppenheimer
Poughkeepsie, N.Y.

Interestingly, at the same American Society for Microbiology meeting where the work on vinegar and hydrogen peroxide was reported, Michael J. Casteel of the University of North Carolina described using chlorine to successfully disinfect strawberries tainted with pathogenic viruses.

However, Sumner's work indicates that chlorine bleach is far less effective than the combination of vinegar and hydrogen peroxide at killing bacteria. —J. Raloff

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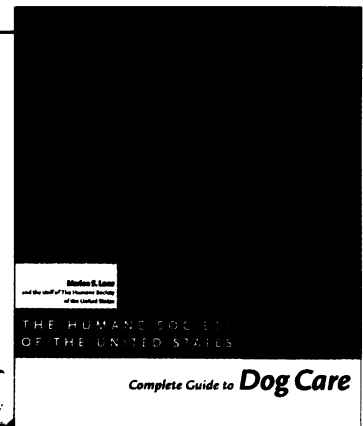
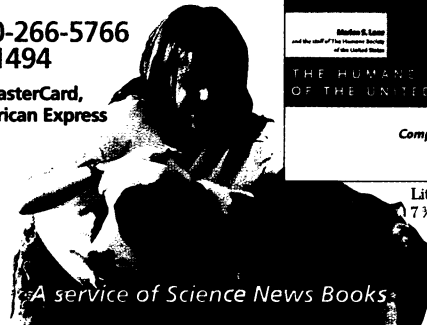
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