



Society for
Ecological Restoration
International

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**TRADITIONAL ECOLOGICAL KNOWLEDGE
FOCUSES ON GLOBAL CLIMATE CHANGE**

SEPTEMBER 13, 2005: Tsunamis, hurricanes, droughts, disappearing tundra and melting ice caps—global climate change is posing more and more of a challenge to every region of the world. The field that has long been focused on repairing ecosystems that have been damaged and degraded by the human footprint is turning to an unlikely source of information on the scope of global climate change: indigenous peoples.

Dozens of indigenous experts in traditional ecological knowledge---from Peru, Kenya, the Himalayas, Cameroon and the Caribbean to the Cook Islands, North America, China, Ethiopia, Siberia and more---gathered in Zaragoza, Spain to participate in the Society for Ecological Restoration (SER) International's "Earth in Transition" meeting to talk about how traditional ecological knowledge has helped indigenous communities adapt to unpredictable weather patterns. Convened by SER's Indigenous Peoples' Restoration Network, Earth in Transition garnered support from such diverse funders as the band R.E.M. to the U.S.-based Christensen Fund and Starflower Foundation.

"What Western scientists learned from listening to indigenous people describing the effects of global climate change in their local regions is that the environmental challenges we face will require intervention on every level, from the village to world governing bodies," said Keith Bowers, chair of SER International, a membership organization made up of thousands of experts on ecological restoration from around the globe. "Global climate change is affecting their environment, culture and physical survival, and the industrialized world is just starting to feel it. But this gathering gives me hope, because these indigenous scholars represent an on-the-ground movement of restoration that is vital to the health of our planet."

What do indigenous people have to say about the impact of global climate change? The stories are eerily the same whether the speakers live in the Arctic Circle or Asia: the flow of water and predictable climates that maintain living things have become wildly erratic. As Greenland's tundra melts and floods the land, Kenya, Ethiopia and other parts of Africa suffer from severe droughts and famines. Temperature fluctuation, from unusually heavy snows to short, scorching summers, have left nomadic tribes around the world wrestling with invasive species that are overtaking their pastures and foraging lands.

Nazgul Esengulova, Director of the Ak Terek Public Fund in the Kyrgyz Republic, described how for centuries her nomadic society used to move their herds of yak, camels and sheep from pasture to pasture four times a year, preventing overgrazing of any one area. But global climate change has led to harsher winters and now heavy snows block access to winter pastures, while hotter and shorter summers leave some pastures undergrazed.

How does traditional ecological knowledge help these indigenous people? One example is in the Kyrgyz Republic: an undergrazed field, explained Esengulova, is dangerous because the grasses grow tall and thick, and tender, edible shoots have no room to grow the next season. So the tribes use an ancient method of controlled burns to restore their pasture lands, setting fire to the undergrazed lands before moving on to the next pasture. When they return a few seasons later, there are young, tender grasses for their livestock to eat.

In Kenya, where villagers read the entrails of cattle and chart the stars to predict weather changes, unpredictable rains have led to drought and famine throughout the country, and neighboring countries. “Even when the rains are three weeks late, it can cause devastating problems for our people,” said Hussein Isack, a Senior Research Scientist at the National Museum in Nairobi, Kenya. “Also, neighboring communities tend to encroach on our lands when the rains are late.”

Traditionally, when the twice-annual rains do come, tribes move to the rain-made rivers and herds graze on the grasses that sprout up after the rain. During the dry season, they move to the permanent rivers. This system long prevented overgrazing of an area. But drought and increasingly hotter temperatures, and an influx of tribes from neighboring countries who are desperate for water, are leading to huge environmental and social problems. “Even when we have rain, the temperatures are hotter and so the water evaporates faster,” said Isack.

Global warming is perhaps easiest for most people to conceptualize in places like Alaska and the Arctic Circle, where glaciers are melting at a record-setting rate. Elaine Abraham, Chair of the Alaska Native Science Commission, pointed out that “permafrost is becoming impermanent. Glaciers are retreating 15 percent every decade. Spruce beetles are decimating forest areas. Hunting areas are being closed. Snows are disappearing. Elders can no longer predict the thickness of the ice so people are falling through the thin ice.” The entire culture and way of life of her people and others who rely on hunting, fishing and foraging to survive is threatened.

“We need the ice to keep our way of life,” said Greenland native Anna Heilmann, from the Arctic Council Project, who described similar effects of global climate change in Greenland: “Our tundra is melting, and also our polar ice caps. This affects every part of our society.” Sled dogs, for example, are becoming obsolete as the loss of ice means hunters can no longer use their sleds to hunt, and the meat from the hunts were used to feed the dogs. “Now the hunters just keep the dogs for sport,” she said. Hunters who can’t hunt rely on government aid to survive. “At first, it was considered ‘catastrophe aid,’ ” said Heilmann, “but when they need it year after year, it becomes the new way of life.”

Abraham, Heilmann and others warn, “What happens to us will happen globally. We are the canary in the mine.”

“What is clear to all of us indigenous experts is that traditional ecological knowledge is an irreplaceable source of potential adaptive solutions,” says Dennis Martinez, chair of the IPRN and a member of North America’s O’odham Nation.

Earth in Transition is the continuation of a long-term effort by SER to integrate TEK into the larger, Western-science-dominated field. The gathering has been underwritten by the Christensen Fund, and other funders.

For more information and proceedings of this meeting, visit the IPRN website: www.ser.org/iprn, a portal to resources and information on TEK.

Founded in 1987, the Society for Ecological Restoration (SER) International's mission is to promote ecological restoration as a means of sustaining the diversity of life on Earth and reestablishing an ecologically healthy relationship between nature and culture. The nonprofit organization has members in 37 countries and all 50 states in the U.S.A., with regional Chapters throughout North America, England, Europe, Australia and India. Recognized by public and private enterprises as the leading source for expertise on restoration science, practice and policy, SER International supports the work of its worldwide membership. Members include thousands of individuals and organizations who are actively engaged in ecologically-sensitive repair and management of ecosystems through an unusually broad array of experience, knowledge sets and cultural perspectives. They are scientists, planners, administrators, ecological consultants, first peoples, landscape architects, philosophers, teachers, engineers, natural areas managers, writers, growers, community activists, and volunteers, among others.

SER International serves the growing field of Ecological Restoration through facilitating dialogue among restorationists; encouraging research; promoting awareness of, and public support for, restoration and restorative management; contributing to public policy discussions; recognizing those who have made outstanding contributions to the field of restoration; and promoting ecological restoration around the globe.

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