

# PROTECTING NAMIBIA'S NATURAL RESOURCES

Kristina Stefanova

*Since 1992, the U.S. Agency for International Development has supported the development of community structures to conserve and profit from Namibia's biologically rich environment. These conservancies, which are home to almost 100,000 Namibians, are empowered to manage wildlife and other natural resources to generate income and employment for rural communities. They have their own constitutions, policies and procedures, and management plans. And as this article describes, many of them are on the way to profitability and self-sufficiency—or are already there.*

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Namibia, a large, arid country in southwestern Africa, has a democratic government, relatively good infrastructure, and abundant natural resources. While mining, fishing, and tourism fuel the economy, most people eke out a living from subsistence agriculture and what amounts to the exploitation of natural resources. Interestingly, tourism accounts for about 10 percent of Namibia's gross domestic product and is a significant contributor to rural employment and income.

Namibia is the world's first country to incorporate environmental protection into its constitution. Article 95 provides that "The State shall actively promote and maintain the welfare of the people by adopting, *inter alia*, policies aimed at the following: maintenance of ecosystems, essential ecological processes, and biological diversity of Namibia, and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future." Further, Article 91 states that an ombudsman will be responsible for investigating complaints "concerning the overutilization of living natural resources, the irrational exploitation of nonrenewable resources, the degradation and destruction of ecosystems, and failure to protect the beauty and character of Namibia." Today, some 14 percent of the country is covered by protected areas. As more land is protected, it becomes increasingly important to help rural communities living either within or near the conservation areas to profit from protecting the land and its resources.

## BENEFITS FROM CONSERVANCIES

Since 1992, the U.S. Agency for International Development (USAID), through its mission in Namibia, has supported the development of community structures to conserve and profit from the biologically rich environment. To date, USAID has invested almost \$40.3 million in this program—which was matched by an even larger sum from private investors and other donors through 2004.

In 2005, USAID funded the third phase (2005-2010) of the Community-Based Natural Resources Management (CBNRM) program, which is being implemented by a consortium led by the World Wildlife Fund (WWF) in partnership with the Namibian government and a network of local nongovernmental organizations (NGOs). The CBNRM program helps the formation and development of communal conservancies that are empowered to manage wildlife and other natural resources to generate income and employment for rural communities. It also promotes the integrated management of all communally owned resources in the conservancies. These resources are managed through different pieces of legislation that ensure compatibility. For example, land legislation ensures that conservancy management plans are not contravened during the processes of land allocation and administration.

Members from each conservancy elect a committee to oversee the development and management of communal resources. The committee includes both men and women from the communities, thus giving them a voice on local governance decisions. The community representatives who serve on the committees report back to their communities at various meetings and often invite local government representatives to share information. Only those communities that receive wildlife quotas report to the national government on the utilization of the quotas.

"Given their structural organization, conservancies are great avenues through which we can get out the word on HIV/AIDS and civic education in rural areas," says Tina Dooley-Jones, USAID's director of technical programs in Namibia.



A cheetah rests in the shade in southern Africa.

Loni Wasselchuk, Associated Press

Conservancies earn significant income by entering into joint ventures with private investors to establish safari lodges or by negotiating trophy-hunting concession agreements. Individual members also earn money from making and selling arts and crafts. Except for such personal income, the earnings of the conservancies are pooled. A portion of the conservancy income goes toward community projects such as schools, clinics, and roads. For example, in 2003, Torra Conservancy contributed more than \$2,000 toward the renovation of their local school and bought a photocopier for the school. It also contributed about \$1,000 to their local crèche—a day nursery. In 2003, Khoadi Hoas Conservancy contributed more than \$3,000 to their two local schools and provided diesel fuel to farmers to pump water for their own livestock and for elephants. In 2004, Nyae Nyae Conservancy provided funds for waterpoints maintenance and protection against elephants, in order to secure water for both human and wildlife consumption. The remaining funds in these accounts generally were distributed to the individual residents as a dividend of conservancy membership.

Under its 2005-2010 strategy for Namibia, USAID is expanding from conservancy wildlife management to community oversight of a broader set of natural resources, including forests, fisheries, and grazing land. It is also emphasizing business development skills and training projects for income-earning activities.

### THE BOTTOM LINE

Namibia's 31 registered conservancies earned \$2.35 million in 2004, compared to nine years earlier in 1995,

when their earnings were less than \$100,000. Four of the conservancies are now financially self-sustaining, while six more are expected to earn profits by 2006. Although 11 of the conservancies had earned no income by the end of 2003, it was largely because they were newly registered and were still developing their enterprises. The remaining conservancies were at different stages of development and are making minimal contributions to their operating costs, including conservancy staff salaries.

Almost 100,000 Namibians reside in conservancies, and some 3,800 people are employed as game guards, hunters, artisans, and customer service personnel

at lodges and campsites. Conservancies are self-governing entities having their own constitutions, policies and procedures, and management plans. Individual conservancy residents are subject to customary law under their respective traditional authorities.

The registered conservancies protect some 8 million hectares of communal land, which is in addition to 11.2 million hectares already protected by the government. According to Gary Newton, the director of USAID's mission in Namibia, "By the end of our support to Namibia's conservancies in 2010, some 18 percent of Namibia's land mass will be under a sustainable system of natural resource management, and biodiversity will have been greatly enhanced."

Torra Conservancy, the first to become self-sufficient, distributed about \$75 to every conservancy member in 2003—equal to half the average annual incomes. However, no cash distributions were made in 2004. Instead, the conservancy bought two vehicles, one of which it is using as an ambulance to transport sick people needing advanced medical care to a hospital that is about 300 kilometers away from the conservancy. The conservancy also provided cash compensation of about \$16,000 to local farmers who lost livestock to predators. Similar compensation schemes are being undertaken in at least five other conservancies.

In 2004, the Torra Conservancy was one of six winners of an international prize awarded by the United Nations Development Program. This year, the Damaraland Camp, a safari lodge located within the conservancy, won the 2005 Tourism for Tomorrow Conservation Award at a Global Tourism summit—an award that recognizes the world's best practices in responsible tourism.

For 2005, Torra Conservancy has allocated resources to three major projects. The first is a campsite construction estimated at \$50,000 that is expected to create 10 to 15 additional jobs for local community members. The second effort is a garden project costing \$20,000 that will produce paprika and citrus fruits on communal land for commercial sale and vegetables for local consumption. The vegetables will be supplied free to elderly and sick people, with any remainder sold to the community to recover costs. This project is also soliciting additional support from the Namibian government under the Green Scheme implemented by the Ministry of Agriculture, Water, and Forestry. The third project involves construction of a new crèche at \$6,500.

### **INCREASED WILDLIFE POPULATIONS**

Wildlife in Namibia suffered heavy losses from poaching until the mid 1990s. Since then, poaching has declined immensely, largely due to the work of community game guards and to the increased perceived value with which communities view wildlife. As a result, wildlife is coming back into the conservancies. There are now more elephants, oryx, buffalo, Hartmann's zebra, springbok,

and lions than ever before in modern times. Namibia also has the world's largest free-roaming population of black rhinos, and their numbers have doubled in the northern Kunene region over the last 12 years. The country is also home to 2,500 cheetahs, the world's largest population of the big cats.

"Game donations, primarily from private farms and the government, have helped conservancies increase wildlife populations and reflect a growing confidence in the ability of the conservancies to be good shepherds of the environment," says Tina Dooley-Jones.

The project is successful, she says, because "it hits the governance aspect—we are working with rural people who politically could be extremely strong when it comes to their local governance and the use of their resources. It also touches upon biodiversity and conservation. People won't conserve or sustainably use natural resources unless they can see the benefit of conservation. And, of course, there's the livelihoods aspect. There, people may have absolutely no other source of income or very few alternative sources of income. So this is a very tangible poverty alleviation program." ■

## SEEING THE LANDSCAPE IN NEW WAYS

Some developing nations, although poor in capital assets, are rich in vegetative natural resources—primarily forests. These forests have a value beyond the lumber and habitat they provide. One can think of them as banks filled with carbon instead of money. As concern about global warming and attention to emission reduction increases, the forests of developing nations are becoming valuable for the carbon dioxide they remove from the atmosphere and store, or sequester.

As part of the growth process, vegetation removes carbon dioxide from the air, offsetting the polluting emissions of vehicles, factories, and other human activities. More and more countries and industries are seeking ways to offset their carbon emissions, and promoting forestry management is a good way to do just that. Interest and investment in forestry programs designed for carbon management is growing. Poor countries that have abundant forests have a potential new source of income and new incentives to manage their forests wisely.

Forest management depends on a good understanding of the resource base, sound planning and policies, and the front-line support of local people. Accurate information is critical to the process. Winrock International, a U.S.-based nonprofit organization that fosters natural resource management and environmental sustainability, believes that developing nations should have access to the same kind of data that developed countries use to make decisions. To that end, Winrock has designed inexpensive, high-quality tools—known collectively as digital aerial imagery—to evaluate the health of forest resources, explore land use, develop management plans, and monitor the forests over time.

Digital aerial imagery and the data it generates are giving local communities, governments, and researchers a new perspective on their surroundings. This imagery is enabling people to see, in many cases for the first time, the impact they have on the environment. As a result, they are adopting sustainable farming practices that boost production and income, reducing the need for farmers to extend cultivation into forest areas. Communities are making better use of raw forest products,

adding value at the local level to increase economic gain and contain uncontrolled logging. Development of small enterprises based on non-timber forest products is introducing new ways to earn income, a powerful incentive to preserving forests.

Digital aerial imagery gives decision makers an accurate tool to measure and monitor land use change, develop policies, and set priorities. They can see how decisions and policies impact resources and how the involvement of all stakeholders can mean long-term management success. Researchers are obtaining information so refined that they are able to document the fruiting activities of trees and plants in correlation to changes in wildlife. They can track forest diseases and pests, monitor delicate ecosystems, and determine the right strategies to meet the needs of people and animals who share the forest.

Importantly, forest management, measuring, and monitoring activities provide the data and documentation needed to attract investors interested in offsetting greenhouse gas emissions by purchasing carbon stored in forests. This lucrative and growing sector has the potential to contribute substantially to the development of many emerging nations.

Using its M3DADI technology (multi-spectral, three-dimensional, aerial digital imagery) as a base, Winrock has built a suite of technologies that open the door to economical and precise measurement, monitoring, and analysis of eco-assets, biodiversity, land use, habitat production, water quality, and sequestered carbon found in forests and other vegetation. Training for local people enables them to use Winrock's technology to their full advantage and participate in setting priorities and in measuring and monitoring land use change.

Winrock's work in environmental sustainability in Latin America includes activities in Belize, Bolivia, Brazil, Costa Rica, Ecuador, Guatemala, Mexico, and Peru. Recent efforts have led to carbon measurement and monitoring plans that cover some 931,000 hectares of land and represent an estimated 49.96 million tons of sequestered carbon.

Critically important to this work is building the capacity of nongovernmental organizations, local communities, and others to conduct the verification and analysis needed to support long-term measurement and monitoring efforts and make the most of the information this technology offers. The potential this work represents in the global climate change arena and in the trading of carbon credits will yield dramatic benefits for local people and countries around the world.

On a larger scale, Winrock's leading-edge technology is having an impact globally through the work of vari-

ous funding organizations. Data collection and methodology are enabling the U.S. Agency for International Development to more accurately track the impact of its funding on global carbon stocks. Winrock also developed a method, designed for use by nonexperts, to track carbon in land use and forestry projects supported by the United Nations Development Program. ■

Source: Winrock International.

## PRESERVING RUSSIA'S FORESTS

The future of forests depends on communities from the Ural Mountains to the Pacific Ocean. The Russian Far East contains 22 percent of the forests on Earth. These forests are important for the obvious economic benefits they represent and the unique ecosystems they support. On a global scale, their massive ability to store carbon plays a vital role in reducing atmospheric greenhouse gases that contribute to global climate change.

Winrock International's environmental work targets several key threats that endanger the forests in the region: uncontrolled wildfire that scorches thousands of hectares each year; damaging gypsy and Siberian moths that attack entire forests; and uncontrolled, unsustainable logging that contributes little to the struggling local communities these forests support.

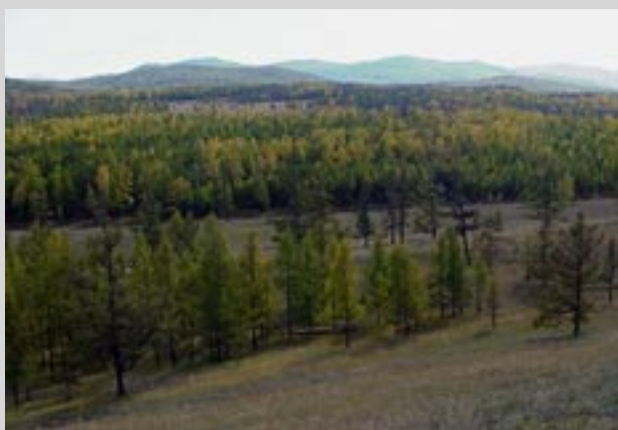
Unfortunately, various factors, primarily Russia's current economic difficulties, mean that great swaths of forest are disappearing without a compensatory benefit to residents. With inadequate funds for

management, Russian government forestry agencies must stand by helplessly while forest fires burn unchecked, pest outbreaks are uncontrolled, and illegal loggers operate without penalty. Even where legal logging takes place, lack of capital to build

sawmills means that logs are exported in their raw state, bringing in far less money than finished lumber would.

Winrock, through its Forest Resources and Technologies (FOREST) project funded by the U.S. Agency for International Development, has provided both grants and technological help to build and update sawmills and manufacturing

facilities in Russia. The project has also increased the efficiency of existing mills by assisting in the installation of biomass facilities, which use heat from sawdust—formerly a waste product—to dry wood and increase its export value. Some facilities have increased their incomes by hundreds of thousands of dollars a year through biomass utilization.



Forest in Siberia.

Winrock International

A FOREST partner organization has developed a software package called EcoSentinel that can forecast outbreaks of Siberian moth caterpillars. The software tallies population counts for moth larvae and pheromone monitoring results for adult moths, automatically pinpointing high-risk areas. As a result, outbreaks can be contained with far less labor and expense.

As part of a FOREST public awareness campaign, drama students in the city of Khabarovsk created and performed a play entitled *I Give You a Thousand Years*, which vividly brought to life the dangers of forest fires and the economic and environmental losses they cause. FOREST supported a Tiger Day festival at the Khabarovsk Zoo to publicize the conservation of the Amur tiger, an endangered resident of Russian forests. Using FOREST resources, many teachers in Russia have included forest ecology in their environmental science courses.

In an especially innovative approach, FOREST has helped area residents make money from their forests—without cutting them down—by harvesting renewable resources such as pine nuts, berries, and mushrooms. With the project's help, members of the Siberian Interregional Association of Organic Producers, along with members of similar groups, attended a major international exhibition, the Natural Products Expo West, in California. Here, their products were seen by visitors from other countries who are potential customers for herbal raw materials and new types of health foods, dietary supplements, essential oils, and natural cosmetics. As preparation for the exhibition, FOREST volunteers trained Russian participants in presentation and international negotiation techniques. ■

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Source: Winrock International.