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In Niger, Trees and Crops Turn Back the Desert



Michael Kamber for The New York Times

In Ague, Niger, where replanting trees helped alleviate the effects of a famine in 2005, boys operate a foot pump to draw water for irrigation.

By LYDIA POLGREEN
Published: February 11, 2007

GUIDAN BAKOYE, Niger — In this dust-choked region, long seen as an increasingly barren wasteland decaying into desert, millions of trees are flourishing, thanks in part to poor farmers whose simple methods cost little or nothing at all.

Better conservation and improved rainfall have led to at least 7.4 million newly tree-covered acres in Niger, researchers have found, achieved largely without relying on the large-scale planting of trees or other expensive methods often advocated by African politicians and aid groups for halting desertification, the process by which soil loses its fertility.

Recent studies of vegetation patterns, based on detailed satellite images and on-the-ground inventories of trees, have found that Niger, a place of persistent hunger and deprivation, has recently added millions of new trees and is now far greener than it was 30 years ago.

These gains, moreover, have come at a time when the population of Niger has exploded, confounding the conventional wisdom that population growth leads to the loss of trees and accelerates land degradation, scientists studying Niger say.

The vegetation is densest, researchers have found, in some of the most densely populated regions of the country.

Multimedia



Graphic
A Green Revolution

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Michael Kamber for The New York Times
In Tahoua, where women have regenerated once-barren fields by digging manure pits, women mill their grain by pounding it with wooden

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pestles.

"The general picture of the Sahel is much less bleak than we tend to assume," said Chris P. Reij, a soil conservationist

who has been working in the region for more than 30 years and helped lead a study published last summer on Niger's vegetation patterns. "Niger was for us an enormous surprise."

About 20 years ago, farmers like Ibrahim Danjimo realized something terrible was happening to their fields.

"We look around, all the trees were far from the village," said Mr. Danjimo, a farmer in his 40s who has been working the rocky, sandy soil of this tiny village since he was a child. "Suddenly, the trees were all gone."

Fierce winds were carrying off the topsoil of their once-productive land. Sand dunes threatened to swallow huts. Wells ran dry. Across the Sahel, a semiarid belt that spans Africa just below the Sahara and is home to some of the poorest people on earth, a cataclysm was unfolding.

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Severe drought in the 1970s and '80s, coupled with a population explosion and destructive farming and livestock practices, was denuding vast swaths of land. The desert seemed determined to swallow everything. So Mr. Danjimo and other farmers in Guidan Bakoye took a small but radical step. No longer would they clear the saplings from their fields before planting, as they had for generations. Instead they would protect and nurture them, carefully plowing around them when sowing millet, sorghum, peanuts and beans.

WORLD

Niger Grows Greener

Farmers in Niger have used simple techniques to help a once-barren region become greener. The Times's Lydia Polgreen reports.

Today, the success in growing new trees suggests that the harm to much of the Sahel may not have been permanent, but a temporary loss of fertility. The evidence, scientists say, demonstrates

how relatively small changes in human behavior can transform the regional ecology, restoring its biodiversity and productivity.

In Niger's case, farmers began protecting trees just as rainfall levels began to rise again after the droughts in the 1970s and '80s.

Another change was the way trees were regarded by law. From colonial times, all trees in Niger had been regarded as the property of the state, which gave farmers little incentive to protect them. Trees were chopped for firewood or construction without regard to the environmental costs. Government foresters were supposed to make sure the trees were properly managed, but there were not enough of them to police a country nearly twice the size of Texas.

But over time, farmers began to regard the trees in their fields as their property, and in recent years the government has recognized the benefits of that outlook by allowing individuals to own trees. Farmers make money from the trees by selling branches, pods, fruit and bark. Because those sales are more lucrative over time than simply chopping down the tree for firewood, the farmers preserve them.

The greening began in the mid-1980s, Dr. Reij said, "and every time we went back to Niger, the scale increased."



Listen in on the conversation.

The New York Times

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"The density is so spectacular," he said.

Mahamane Larwanou, a forestry expert at the University of Niamey in Niger's capital, said the regrowth of trees had transformed rural life in Niger.

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