New Jungles Prompt a Debate on Rain Forests

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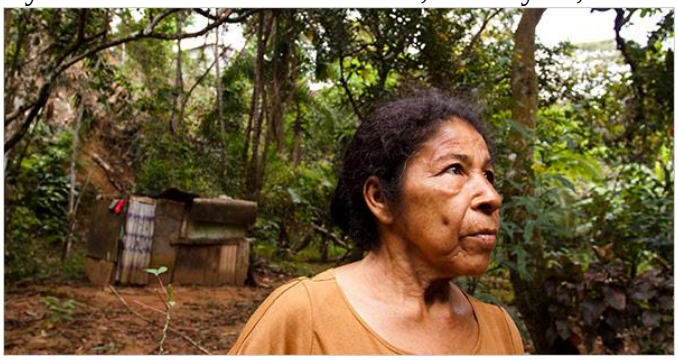
By ELISABETH ROSENTHAL, January 29, 2009



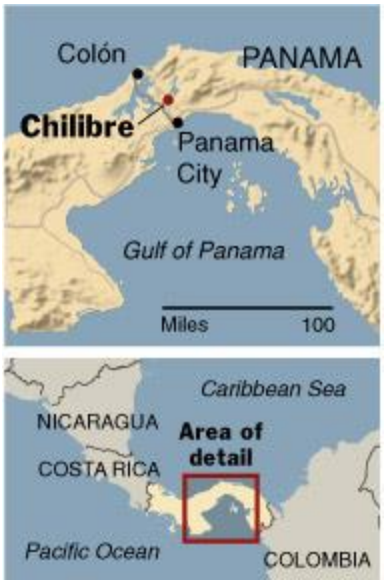
CHILIBRE, Panama — The land where Marta Ortega de Wing raised hundreds of pigs until 10 years ago is being overtaken by galloping jungle — palms, lizards and ants.

Jungle is developing again on old holdings around Chilibre.

Instead of farming, she now shops at the supermarket and her grown children and grandchildren live in places like Panama City and New York.

Here, and in other tropical countries around the world, small holdings like Ms. Ortega de Wing's — and much larger swaths of farmland — are reverting to nature, as people abandon their land and move to the cities in search of better livings.

These new "secondary" forests are emerging in Latin America, Asia and other tropical regions at such a fast pace that the trend has set off a serious debate about whether saving primeval rain forest — an iconic environmental cause — may be less urgent than once thought. By one estimate, for every acre of rain forest cut down each year, more than 50 acres of new forest are growing in the tropics on land that was once farmed, logged or ravaged by natural disaster.



"There is far more forest here than there was 30 years ago," said Ms. Ortega de Wing, 64, who remembers fields of mango trees and banana plants.

The new forests, the scientists argue, could blunt the effects of rain forest destruction by absorbing carbon dioxide, the leading heat-trapping gas linked to global warming, one crucial role that rain forests play. They could also, to a lesser extent, provide habitat for endangered species.

The idea has stirred outrage among environmentalists who believe that vigorous efforts to protect native rain forest should remain a top priority. But the notion has gained currency in mainstream organizations like the Smithsonian Institution and the United Nations, which in 2005 concluded that new forests were "increasing dramatically" and "undervalued" for their environmental benefits. The United Nations is undertaking the first global catalog of the new forests, which vary greatly in their stage of growth.

"Biologists were ignoring these huge population trends and acting as if only original forest has conservation value, and that's just wrong," said Joe Wright, a senior scientist at the Smithsonian Tropical Research Institute here, who set off a firestorm two years ago by suggesting that the new forests could substantially compensate for rain forest destruction.

"Is this a real rain forest?" Dr. Wright asked, walking the land of a former American cacao plantation that was abandoned about 50 years ago, and pointing to fig trees and vast webs of community spiders and howler monkeys.

"A botanist can look at the trees here and know this is regrowth," he said. "But the temperature and humidity are right. Look at the number of birds! It works. This is a suitable habitat."

Dr. Wright and others say the overzealous protection of rain forests not only prevents poor local people from profiting from the rain forests on their land but also robs financing and attention from other approaches to fighting global warming, like eliminating coal plants.

But other scientists, including some of Dr. Wright's closest colleagues, disagree, saying that forceful protection of rain forests is especially important in the face of threats from industrialized farming and logging.

The issue has also set off a debate over the true definition of a rain forest. How do old forests compare with new ones in their environmental value? Is every rain forest sacred?

"Yes, there are forests growing back, but not all forests are equal," said Bill Laurance, another senior scientist at the Smithsonian, who has worked extensively in the Amazon.

He scoffed as he viewed Ms. Ortega de Wing's overgrown land: "This is a caricature of a rain forest!" he said. "There's no canopy, there's too much light, there are only a few species. There is a lot of change all around here whittling away at the forest, from highways to development."

While new forests may absorb carbon emissions, he says, they are unlikely to save most endangered rain-forest species, which have no way to reach them.

Everyone, including Dr. Wright, agrees that large-scale rain-forest destruction in the Amazon or Indonesia should be limited or managed. Rain forests are the world's great carbon sinks, absorbing the emissions that humans send into the atmosphere, and providing havens for biodiversity.

At issue is how to tally the costs and benefits of forests, at a time when increasing attention is being paid to global climate management and carbon accounting.

Just last month, at climate talks held by the United Nations in Poznan, Poland, the world's environment ministers agreed to a new program through which developing countries will be rewarded for preventing deforestation. But little is known about the new forests — some of them have never even been mapped — and they were not factored into the equation at the meetings.

FADING WAYS Gumercinto Vásquez said it was hard to find work in Chilibre because so many farms had been abandoned.

Dr. Wright and other scientists say they should be. About 38 million acres of original rain forest are being cut down every year, but in 2005, according to the most recent "State of the World's Forests Report" by the United Nations Food and Agriculture Organization, there were an estimated 2.1 billion acres of potential replacement forest growing in the tropics — an area almost as large as the United States. The new forest included secondary forest on former farmland and so-called degraded forest, land that has been partly logged or destroyed by natural disasters like fires and then left to nature. In Panama by the 1990s, the last decade for which data is available, the rain forest is being destroyed at a rate of 1.3 percent each year. The area of secondary forest is increasing by more than 4 percent yearly, Dr. Wright estimates.

With the heat and rainfall in tropical Panama, new growth is remarkably fast. Within 15 years, abandoned land can contain trees more than 100 feet high. Within 20, a thick rain-forest canopy forms again. Here in the lush, misty hills, it is easy to see rain-forest destruction as part of a centuries-old cycle of human civilization and wilderness, in which each in turn is cleared and replaced by the other. The Mayans first cleared lands here that are now dense forest. The area around Gamboa, cleared when the Panama Canal was built, now looks to the untrained eye like the wildest of jungles.

But Dr. Laurance says that is a dangerous lens through which to view the modern world, where the forces that are destroying rain forest operate on a scale previously unknown.

Now the rain forest is being felled by "industrial forestry, agriculture, the oil and gas industry — and it's globalized, where every stick of timber is being cut in Congo is sent to China and one bulldozer does a lot more damage than 1,000 farmers with machetes," he said.

Globally, one-fifth of the world's carbon emissions come from the destruction of rain forests, scientists say. It is unknown how much of that is being

canceled out by forest that is in the process of regrowth. It is a crucial but scientifically controversial question, the answer to which may depend on where and when the forests are growing.

Although the United Nations' report noted the enormous increase of secondary forests, it is unclear how to describe or define them. The 2.1 billion acres of secondary forests includes a mishmash of land that has the potential to grow into a vibrant faux rain forest and land that may never become more than a biologically shallow tangle of trees and weeds.

"Our knowledge of these forests is still rather limited," said Wulf Killmann, director of forestry products and industry at the United Nations agriculture organization. The agency is in the early phases of a global assessment of the scope of secondary forest, which will be ready in 2011.

The Smithsonian, hoping to answer such questions, is just starting to study a large plot of newly abandoned farmland in central Panama to learn about the regeneration of forests there.

Regenerated forests in the tropics appear to be especially good at absorbing emissions of carbon, but that ability is based on location and rate of growth. A field abandoned in New York in 1900 will have trees shorter than those growing on a field here that was abandoned just 20 years ago.

For many biologists, a far bigger concern is whether new forests can support the riot of plant and animal species associated with rain forests. Part of the problem is that abandoned farmland is often distant from native rain forest. How does it help Amazonian species threatened by rain-forest destruction in Brazil if secondary forests grow on the outskirts of Panama City?

Dr. Wright — an internationally respected scientist — said he knew he was stirring up controversy when he suggested to a conference of tropical biologists that rain forests might not be so bad off. Having lived in Panama for 25 years, he is convinced that scientific assessments of the rain forests' future were not taking into account the effects of population and migration trends that are obvious on the ground.

In Latin America and Asia, birthrates have dropped drastically; most people have two or three children. New jobs tied to global industry, as well as improved transportation, are luring a rural population to fast-growing cities. Better farming techniques and access to seed and fertilizer mean that marginal lands are no longer farmed because it takes fewer farmers to feed a growing population.

Gumercinto Vásquez, a stooped casual laborer who was weeding a field in Chilibre in the blistering sun, said it had become hard for him to find work because so many farms had been abandoned.

"Very few people around here are farming these days," he said.

Dr. Wright, looking at a new forest, sees possibility. He says new research suggests that 40 to 90 percent of rain-forest species can survive in new forest.

Dr. Laurance focuses on what will be missing, ticking off species like jaguars, tapirs and a variety of birds and invertebrates.

While he concedes that a regrown forest may absorb some carbon, he insists, "This is not the rich ecosystem of a rain forest."

Still, the fate of secondary forests lies not just in biology. A global recession could erase jobs in cities, driving residents back to the land.

"Those are questions for economists and politicians, not us," Dr. Wright said.

Discussion Questions:

1. What evidence does the author provide that tropical forests may be growing faster than earlier believed?

2. Why might these forests be growing back?

3. Are these new areas of tropical forest similar to the original tropical forests?

4. How are these forest areas different?