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The Boston Globe

## Diet for a hot planet

By Daniel Nepstad | November 22, 2006

THIRTY-FIVE years ago, Frances Moore Lappé's revolutionary cookbook "Diet for a Small Planet" warned of the dire consequences of a growing taste for meat. For example, it takes up to 16 times more farmland to sustain people on a diet of animal protein than on a diet of plant protein. As US, European, and Asian farmers run out of land for crop expansion, her warning rings prophetic. The emerging meat-eaters of the emerging economies -- especially China -- are driving industrial agriculture into the tropical forests of South America, sending greenhouse gases skyward in a dangerous new linkage between the palate and the warming of the planet.

Tropical forests contain a wealth of plant and animal species. But they are also a giant, volatile reservoir of carbon that must remain largely intact in order to bring global warming under control. The wood of these magnificent ecosystems stores more than 400 billion tons of carbon, dwarfing the more than 7 billion tons of fossil fuel carbon burned each year. This reservoir is leaking carbon dioxide into the atmosphere at the rate of 1-2 billion tons of carbon per year through the cutting and burning of rainforest. When agricultural fires escape into neighboring tropical forests during particularly dry years, another billion tons or two can slip into the sky.

Keeping tropical forests standing will not be easy. The problem is that they are perched on some of the world's largest remaining tracts of soil suitable for crop- and pastureland expansion. The USDA estimates that all of the cropland of the United States could fit into the South American central plain and Amazon rainforest to the north. So as the growing wealth of China led to a doubling of its meat consumption over the last decade, it has turned to Brazilian soybeans to feed its exploding population of chickens and pigs. India, South Africa, and other emerging economies are on a similar course.

Continental meat-eating habits also deserve some credit for the demise of the Amazon. The European Union created an enormous protein shortfall when it banned the use of animal carcasses in animal ration following outbreaks of mad cow disease. As Chinese imports of soy from Brazil climbed from 0 to 8 million tons in the last decade, European imports went from 3 to 11 million tons.

High oil prices have also fueled the replacement of tropical forests with fields of grain and sugar cane. The most promising source of ethanol to fuel a new fleet of cleaner cars is Brazilian sugar cane, whose expanded production is pushing soy fields into the Amazon.

This diet-energy-climate conundrum may seem insurmountable. But there is reason for hope.

Imbedded in the growing worldwide demand for agricultural commodities is an increasingly rigorous set of environmental and social standards. Finance institutions, commodity traders, consumer groups, environmental NGOs, and human rights organizations are pushing to raise the bar on the socio-environmental "quality" of the agricultural-commodity production chain. For example, the companies that buy most of the soy produced in the Amazon recently declared a two-year moratorium on the purchase of soy grown on recently cleared Amazon rainforest soil, responding to a Greenpeace attack on McDonald's restaurants in Europe that fatten their chickens with Amazon soy.

And international climate negotiations provide another ray of hope. Last year, Papua New Guinea and Costa Rica proposed the compensation of tropical nations for their efforts to curb deforestation. Brazil advanced a similar proposal at the Nairobi round of negotiations last week.

Brazil's recent success in establishing large nature reserves in the path of the expanding agricultural frontier of the Amazon demonstrates that political will can translate into the slowing of tropical forest destruction. But the demand for agricultural commodities also must come down. And there the hope is as close as our dinner tables. If Americans face the connections between diet and the planet by eating less meat -- thumbing their

nose at the Atkins diet -- they could provide a rare act of leadership in slowing global warming.

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