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Can eating less meat curb climate change?

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A conservation-minded Texas mom assesses her contribution to climate change, one meal at a time.

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for the Daily Climate

HOUSTON - Three years ago, I stood atop the Franklin Mountains at dusk, gazing over El Paso, Texas and gritty Ciudad Juárez, its third-world neighbor south of the border. I had just taken a gondola ride up the mountain, but as the lights in the houses of some 2.5 million people flickered on, I started to feel uneasy.

There I was: Comfortable, warm and happily digesting a hamburger, when right across the Rio Grande people lived in desperate conditions with rampant crime. Something about this juxtaposition of indulgence and poverty made me edgy.

Already, our planet's 6.8 billion people include 1 billion **hungry** and 1.6 billion **overweight**, and scientists' best predictions have the population rising to 9 billion by 2050 before leveling off. How will we feed so many people without utterly ravaging the Earth?





Here's the dilemma: As people improve their lot, first they start consuming more food, primarily grains and tubers, and then diets shift to energy-rich vegetable oils, sugars, and meat. Raising these foods on large scales - particularly meat - requires more land, water and energy, and it creates more pollution than grain crops or veggies alone.

"We are in essence eating the world's tropical rainforests and savannas," University of Minnesota ecology professor David Tilman told me. But it doesn't have to be this way.

For more than 25 years now, I have lived in Texas, land of the longhorn, home of famous BBQ beef.

"There is no reason for even one more acre of rainforest to be cut. If we farmed them properly, the lands that have already been cleared could fully meet global food demand for at least the next 50 years," he said.

Tilman and colleagues modeled how our diet will affect the world by 2050, warning that agriculturally-driven environmental change will rival that from a warming climate. If trends continue, people will be exposed to more pesticides, and we will run out of fresh water for irrigation. Increased fertilizer use will salinize soils and raise the number of aquatic low-oxygen "dead zones." The loss of natural ecosystems to agriculture will exceed the land area of the United States, leading to biodiversity loss and species extinctions. They conclude that food demand could be lowered "if the trend toward diets rich in meat were reversed."

Perhaps I was feeling guilty over my hamburger. It's easy to bemoan runaway population growth, but as an American I contribute disproportionately to global consumption, and hence environmental degradation. In a *New York Times* [essay](#), University of California-Los Angeles professor Jared Diamond calculated that Americans consume 32 times the resources than those in developing countries. Food plays a huge role in this.

For more than 25 years now, I have lived in Texas, land of the longhorn, home of famous BBQ beef. My ex-husband gently swayed me from teenage vegetarianism back into carnivory. We raised two kids, now teens themselves, who prefer a helping of cow, pig or chicken with every meal, thank you very much.

Ah meat, it's a national obsession: Meat Lover's Pizza, lunch meat, hot dogs, hamburgers, grilled ribeye, fried chicken. Americans eat twice the recommended daily allowance of protein. The result? We "eat like an SUV," say University of Chicago scientists Gidon Eshel and Pamela Martin. The average American diet adds an extra ton and a half of CO₂-equivalent emissions per capita annually compared to a vegan diet. That's significant when the annual total for an average American is 4 tons.

I may not be able to personally change agricultural policy, but I can modify my diet.

Livestock contributes 18 percent of greenhouse gases worldwide, according to the oft-cited United Nations report, [Livestock's Long Shadow](#). Much of that value comes from rainforest deforestation, and most of the rest comes from cow burps and liquefied

manure. Some have criticized the report, but report co-author Dr. Pierre Gerber says, "We fully maintain the 18 percent."

The U.S. EPA estimates that 6 percent of our greenhouse gases come from all agriculture, but we also have a disproportionate number of vehicles and smokestacks. Nicolette Niman, vegetarian rancher and author of *Righteous Porkchop*, argues that it's misguided to blame American beef for rainforest destruction.

Tilman disagrees. "What we eat in the U.S. has global impacts, whether or not we directly consume beef from Brazil," he says. "We use about half of our farmland to grow grains for animal feed. Were we to eat less meat or eat more environmentally efficient meat, we would export more grains, and this would decrease the demand for crops that are an underlying driver of tropical deforestation."

A 2009 [study](#) commissioned by Compassion in World Farming and conducted by European academics determined that we can feed 9 billion people without any further habitat loss using organic, humane methods, with no factory farms. This challenging task would require reduction of meat consumption, particularly in developed nations.

This brings to mind a childhood memory. One harvest day, I watched Dad place an Araucana rooster on a stump, and with one fell smack, off came its head. True to story, the headless chicken flopped around, blood sputtering. It enthralled and revolted me in equal measure. I decided not to eat our chickens. Dad was not thrilled. "It's so much healthier than store-bought chicken," he pleaded, to no avail. I still wanted meat, but only from a package.

I retained that mental disconnect between animals and meat for most of my life. Then last year, reading Jonathan Safran Foer's *Eating Animals*, I connected my diet to problems with animal welfare, pollution, worker injustices and the power of Big Ag. I made a vow to avoid factory-farmed meat. Given the high price of sustainably raised and humanely harvested meat, this single mom now eats mostly vegetarian.

"It makes sense from all perspectives - health, environmental, animals - for Westerners to reduce their meat and dairy consumption," says Niman. "Farmers and ranchers who are raising higher quality meat can command a premium and be rewarded for their good work."

I may not be able to personally change agricultural policy, slow global population growth, or invent technological innovations to curb global climate change, but I can modify my diet. With three meals a day, every day, it adds up.



Photo credits: Burger close-up courtesy [Lachlan Hardy/flickr](#); Couple eating burger and hot dog courtesy [Vineus/flickr](#).

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