



Farmland expands in the Tangará da Serra region of Mato Grosso, Brazil

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EAT LIKE IT MATTERS

Reducing the meat products on our plates may be our most effective measure against global warming.

In 2009, the European Parliament sought to set ambitious targets for greenhouse-gas reductions in industrialised countries: up to 40% below 1990 levels by 2020 (and 80% below 1990 levels by 2050). Whilst acknowledging the “substantial” greenhouse-gas emissions from the production of meat, the Parliament deleted from its report a call for a cut in worldwide meat consumption, particularly in industrialised nations.

Perhaps taking his cue from this deletion, British celebrity chef Jamie Oliver cooked lamb at an April 2009 dinner for G20 leaders. Apparently, and in order to avoid embarrassment, Oliver discussed proposed menus with G20 embassies beforehand. British prime minister Gordon Brown, it would seem, did not want a repeat of the public relations fiasco the Japanese government suffered when a summit its country hosted on world food shortages featured a luxurious eighteen-course meal.

Climate ‘foodprints’, the ecological weight of what we eat and how we produce it, don’t seem to factor into devising menus for world leaders, or at least not yet. Nor are they usually the criteria by which we decide what to eat. But in a world where climate ‘space’ is shrinking and

multi-year droughts, massive floods and extreme storms and persistent water scarcity in some regions challenge the viability of forests, grasslands, waterways, and communities of humans and other animals, ecological solidarity becomes crucial, and climate-friendly eating needs a place at the global table. If there’s a way we can eat that’s better for the climate, ourselves, and billions of others – that is, vegetarian, vegan or nearly so – shouldn’t we all do it, at every meal?

At the tail end of last year, Lord Stern of Brentford, a former chief economist of the World Bank and now Professor of Economics at the London School of Economics, warned: “Meat is a wasteful use of water and creates a lot of greenhouse gases. It puts enormous pressure on the world’s resources.” Lord Stern made his comments during an interview for *The Times* in which he added: “A vegetarian diet is best.”

Actually, it’s only very recently in the course of human history that meat, dairy products and eggs can be eaten regularly by those outside society’s elite. For thousands of years, pigs, sheep, goats, cows, chickens and other birds had much more value dead than alive. But over the past sixty years, vast changes in agricultural production in industrialised countries, including the adoption of large, factory-like facilities that house thousands of animals in indoor sheds, have made meat, dairy and eggs widely available and affordable to more people.

Since 1980, global production of meat has more than doubled. In the global South it has tripled. And in the global North, people eat, on average, three or four times as much meat as those in developing regions. But the gap is narrowing. Each American eats about 200 pounds of meat a year (90kg), while in the rest of the world, the average is 70 pounds (32kg), but that’s rising. Right now, more than 60 billion animals are used each year to provide meat and dairy products – almost ten times the human population. If current trends persist, by 2050 the global livestock population could reach 120 billion – more than twelve times the human population of 9.3 billion anticipated by then.



Cattle ranch in Agua Boa, Mato Grosso, Brazil

Producing all this meat and dairy has a huge imprint on natural resources: it uses 30% of the Earth's land surface and 70% of all agricultural land. The global livestock industry is also, according to the United Nations Food and Agriculture Organization (FAO), "probably the largest sectoral source of water pollution", itself a key agent of deforestation.

Then there's climate change – further enlarging our individual and collective footprints. One-third of all greenhouse-gas (GHG) emissions can be traced to agriculture and changes in land use attributed to livestock and crop production. (Most farmed animals are fattened on grain-based feed, which requires vast acreage to grow.) Of this, 18% of GHGs stem directly from the livestock industry. This level outpaces the GHGs from all the world's transportation systems (estimated at 14%) and falls just short of GHGs from deforestation (20%).

Dig a little deeper, and you will discover the "livestock effect" is not just about carbon dioxide (CO₂); 37% of the world's methane emissions come from the livestock sector. Methane has twenty-three times the warming potential of CO₂. The livestock sector is also responsible for

65% of nitrous oxide – a greenhouse gas with 296 times CO₂'s climate-warming potential – along with 9% of global CO₂ emissions.

To comprehend the scale of this, consider that each adult cow emits between 176 and 242 pounds of methane a year (80–110kg). Approximately 1.5 billion cows are alive today, putting their annual methane emissions at hundreds of billions of tonnes – and dairy cows, because they're fed more intensively to keep milk production high, emit more methane than those raised for beef. Just before the Copenhagen climate summit in December 2009, new research in an article in *World Watch* magazine indicated that the FAO had severely undercounted the global warming impact of the livestock sector and that it's actually responsible for an astonishing 51% of all human-caused GHGs.

Industrial animal agriculture is deeply reliant on fossil fuels. Fuel is used to manufacture the fertiliser needed to produce feeding grain, to power large factory farms and slaughterhouses, and to process, transport and store animal foods. Cornell University professor David Pimentel found a ratio of energy in to food out of up to 35:1 for meat in the US, compared to 3:1

for a non-meat average food.

In China, Western-style 'meat culture' has gone mainstream: both KFC and McDonald's have now opened more than 1,000 quick-serve restaurants each. China now produces more broiler chickens and pigs every year than the US, but strains are evident. Manure and other run-off from factory farms foul groundwater and rivers, and the South China Sea now contains a large 'dead zone'.

Just two generations after a national famine, diet-related chronic diseases now kill more Chinese people than any other cause. To feed its people – and its livestock – China is looking to lease or buy land in other parts of Asia, in Africa and in Latin America, raising the alarming prospect of a wave of agricultural colonialism.

In India, vegetarianism has a 2,000-year history, but the country is now among the top five producers of meat chickens in the world, raising and slaughtering two billion a year. Brazil is now one of the world's leading producers of meat (it has more cattle – about 200 million – than people) and has become the world's fourth-largest emitter of GHGs.

How, then, to eat? Organic foods. Whole foods. Plant a garden. Grow food or herbs in the interstices. Cook. Eat no-cook raw foods. Rediscover and renew plant-based food cultures and cuisines. Reducing or even excising animal products from our plate may be the most effective individual measure against global warming. Science fills in a portion of why; ethics and equity make up the full plate.

Researchers at Carnegie Mellon University found that eating only local foods for a year led to a net GHG reduction equivalent to not driving 1,000 miles. But eating no meat or dairy, just one day a week reduced GHGs even more: equal to not driving 1,163 miles.

Projections aren't destiny: whether or not 100 billion or more farmed animals are consumed every year by 2050 is a matter of individual and policy action, or the lack of it. Eating isn't, as American farmer-poet Wendell Berry succinctly stated, an "agricultural act" alone. It's also a climate-supporting act, and a chance to practise generosity with each bite. ■

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