

World Food Crisis (Part V: Addendum on Vegetarianism for All)

By ACSH Staff — August 29, 2008

Over the past four days, I have described [the world food crisis](#) [1] -- and both [obstacles](#) [2] to and [hopes](#) [3] for coping with it through [existing institutions](#) [4] -- and I mentioned that misplaced romanticism often affects these important decisions.

One belief popularized by vegetarians (and those opposed to modern agronomy) is that the world could better feed everyone on less land under cultivation if we all gave up eating meat or at least greatly reduced our consumption of it. The current food crisis has revived that argument. Humans are inherently meat- and fruit-eaters, since our large brains require an amount of energy that our digestive system (with relatively small hind gut) could not process except from food that is more energy-dense than grains and vegetables. This is a conclusion drawn from the peer-reviewed literature in *Anthropology and Primatology*. Some of our closest primate relatives, the chimpanzees, are also meat eaters.

Thanks to modern food processing and chemistry, despite the vegans scorning them, they can obtain more calorically and nutritionally dense foods than can be found in "nature," gaining essential nutrients such as vitamin B12, which previously could only be obtained from animal products. Of course, if vegans wish to have their grain contaminated with sufficient insect parts and rodent hairs and droppings (as was the case with some of early agriculture), they might get enough B12 without the synthetic supplement. If we all become lacto-ovo vegetarians, though, who will eat the calves that are born to stimulate the cow's lactation and who will eat the cow when she is no longer producing milk -- or the chickens when they are no longer laying eggs?

Animals "eat huge amounts of forage that humans cannot digest, from grasslands that mostly cannot support crops" and "such high-yield forages as alfalfa, which produce much more biomass per acre than the food crops that might replace it" (Dennis T. Avery, "The Most Sustainable Farming in History Gives the World Its Finest Food Choices," 2002). Coarse grains used for animal feed, such as maize and sorghum, achieve higher yields because of more efficient photosynthesis (as a result of having the genes encoding the C4 enzyme -- instead of the gene for the C3 enzyme characteristic of most other grains and vegetables).

"In addition, animals and poultry eat millions of tons of such by-products as distillers' dried grains and millers' wastes which humans can't digest" (Avery 2002). In citing pounds of feed to pounds of meat, vegetarian advocates neglect to consider caloric nutritional density, digestibility, and overall quality of the inputs compared to the quality of output. A report for the U.N. Food and Agriculture Organization found that "animals worldwide consumed 74 million tons of human-edible protein and produced 54 million tons of human food protein. This gives an input: output ratio of 1.4 to 1. As it happens the ratio of biological value in animal protein compared to plant protein is also 1.4 to 1"

(Avery 2002).

The Green Revolution Helps the Poor

The increased yields in grain production of the much maligned Green Revolution have been driving the expansion of food production, allowing for an increase in daily per capita consumption of Calories (with a capital C for kilocalories) from roughly 1,800 or 1,900 to somewhere between 2,600 and 2,800 Calories today. Contrary to much popular misinformation, the major beneficiaries of the Green Revolution -- this triumph of science and technology in the form of synthetic fertilizer and plant breeding -- have been the poorest and most vulnerable of the world's population.

Since 1960, the absolute number of people in hunger has fallen from 1.5 billion out of a population of 3 billion people to 850 million out of 6.7 billion people. Rice production has increased close to three times since 1960 while using the same amount of water in its production. Prior to the current wave of price increases, the real price of rice was roughly 40% of its 1960 price. (Similarly, the real price of wheat was about 50% of its 1960 price.) Contrary to the monoculture mythology, the amount of land cultivation for primary grains reached its peak around 1980, as increased demand for diversified diets led to a shift from land under cultivation for grains to fruits and vegetables. Farmed fish production has also increased rapidly. Improved nutrition, leading to longer life expectancies and taller average height, is obvious to anyone who has traveled to Asia, among other places.

Increased grain yields were for a time able to accommodate the reduction in land under grain cultivation, the increase in population, and the demand for food, which was growing faster than population. Unfortunately, NGO lobbying and the decades-long railing against modern ("industrial") agriculture brought about a steady decline in domestic and international agricultural research funding. Opposition to agricultural research and development in biotechnology grew as the NGOs falsely but repeatedly claimed that there was controversy in science over biotech's safety.

Given the growing virulent opposition to "industrial" agriculture and agricultural research, it was inevitable that yield increases would start slowing -- so that, by the beginning of this century, the world was eating more than it produced, driving grain reserves to perilously low levels. All of this was set in motion long before the upsurge in biofuel production from food crops, which I personally very strongly opposed. Tragically, those who have contributed so much to the creation of this crisis are now vociferously advocating returning to the low-yield agricultural practices of times past, which were inadequate to feed a population less than one third of today's.

Thomas R. DeGregori, Ph.D., is [a professor of economics](#) ^[5] at the University of Houston and an ACSH Trustee.

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