Brighter Green

Cattle, Soyanization, and Climate Change

Brazil's Agricultural Revolution

BRAZIL, THE WORLD'S eighth largest economy, has become an agricultural powerhouse. It leads the world in exports of beef and veal, with 25 percent of the global market, supplying more than Australia and India, the second- and third-largest beef exporters, combined. Nearly 100 countries import fresh and frozen beef from Brazil.

Trade and Global Demand

In 2003, Brazil ousted the United States to become the top exporter of poultry meat, accounting for more than 40 percent of the global market. It is also the world's fourth largest exporter of pork. Soybeans are another lucrative sector. Brazil is now the world's second-largest exporter of soy, which is a key component of feed for the growing global population of chickens, pigs, cattle, and other animals bred for meat, milk, and eggs, particularly the billions raised in intensive confinement systems (factory farms and feedlots).

In 2009, trade in soybeans, soybean meal, and soybean oil earned Brazil U.S.$17 billion, a nearly five-fold increase from a decade earlier. Brazil's 2010 soybean harvest (approximately 68 million metric tons) is the highest ever. China is the largest buyer of Brazilian soy; the European Union (E.U.) provides another significant market.

Cows, Forests, and Climate

To keep pace with international demand, as well as rising domestic consumption of animal products, Brazil's livestock sector has added animals, production facilities, and processing and transport capacity. But this has come at a significant ecological cost, including to the Amazon rainforest and the Cerrado, the world's most biologically diverse savannah. Brazil is the world's fourth largest emitter of climate-warming greenhouse gases (GHGs). Deforestation and changes in land-use to pave the way for livestock and crops are responsible for 75 percent of Brazil's GHGs.

Half of Brazil's GHG emissions between 2003 and 2008 came from the cattle sector alone, according to recent research. The search for new pasture for

cattle is the prime cause of deforestation in the Amazon. As of 2007, about 74 million cattle, or 40 percent of Brazil's herd, were living in the "Legal Amazon" region.

Before the 2009 UN climate change summit, the government made a commitment to reduce Brazil's GHG emissions 40 percent from projected levels by 2020. Half of the GHG cuts will come from reduced deforestation, and the other from the industrial and farming sectors. But the Brazilian government also set another goal: to double the size of Brazil's cattle herd by 2018.

Soy and the Savannah

The Amazon and Cerrado are also centers of industrial-scale cultivation of soybeans, and large areas of former forest or savannah ecosystems are now demarcated by a patchwork of large, straight-edged fields, planted with row upon row of soybeans. Almost a million square km (386,000 sq mi), or nearly half of the Cerrado, have been cleared and are now cattle pasture, or cultivated for soybeans, corn (another primary ingredient of livestock feed), or sugarcane, for ethanol production.

While a moratorium on the purchase of soybeans grown on Amazon land deforested after 2006 appears to be holding, it has increased pressure on the Cerrado. In addition, 40 million cattle graze in the Cerrado—and much of the region's pastureland has been degraded.

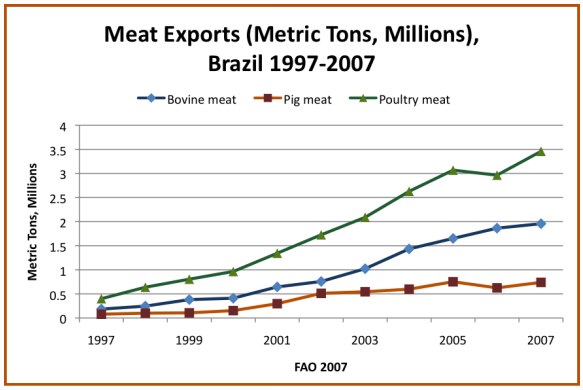
Consolidation and Rising Consumption

Control over production of livestock and animal feed is, by and large, concentrated among a small number of powerful agribusinesses, both Brazilian and multinational (including JBS-Bertin, the world's largest beef and leather producer;

Cargill, Bunge, Louis Dreyfus, Tyson, and others), and large landowners. Securing land for cattle or soybean production in Brazil often provides the flashpoints for conflicts—some deadly—that usually pit large land-owners against smallholders or advocates of land reform.

More than 100 million broiler chickens are produced in Brazil every week—more than 5 billion a year. Brazil exports chicken to 150 countries, with Saudi Arabia, the E.U., Hong Kong (China), Japan, and the United Arab Emirates among the main importers.

A counterpart to Brazil's thriving export trade in meat and soybeans has been increased consumption of meat, milk, and eggs within the country. As Brazil's economy has expanded, so has the middle class, to which about 50 percent of Brazilians now belong. This, combined with urbanization and government anti-poverty policies, contributed to a 12 percent increase in per capita meat consumption between 1997 and 2007. The steady domestic supply of animal products also sustains a thriving fast-food culture. Each day, 1.6 million Brazilians eat at a McDonald's.



Social and Livelihood Impacts

Brazil's intensive pursuit of animal agriculture has marginalized both small-scale farmers and indigenous communities. Unable to compete, many farmers and other rural workers have moved away from areas with industrial agriculture to urban centers. Some have become *integrados*, or contract farmers, for large conglomerates while others have relocated to more remote frontier regions, leading to new deforestation.

Reduced forest cover and resulting changes in rainfall patterns in the center- and south-west of the Amazon have impacted indigenous tribes like the Kamayurá, who can no longer rely on consistent harvests of cassava (manioc), or fishing, since stocks have collapsed due to rising temperatures and water pollution.

Policy Recommendations

Brazil is an emerging economic superpower, with the confidence and resources to determine a new model for its development. An indication that Brazilians themselves may be hungry for a new paradigm is the surprisingly strong showing of Green Party candidate and former environment minister Marina da Silva, who captured nearly 20 percent of the votes in the first round of balloting in Brazil's 2010 presidential election. Rubens Ricupero, a former Brazilian environment minister and finance minister who also headed the UN Conference on Trade and Development (UNCTAD), envisions Brazil as a future "environmental power." Such a direction would rely less on extraction of resources and more firmly on restoration and regeneration:

The Brazilian government should embrace as a key priority reducing GHG emissions from the cattle sector and associated deforestation, forest fires, and land degradation. The government should put a price on major GHGs, including carbon dioxide and methane. This would have multiple benefits, including, principally, dethroning large-scale cattle ranching as a prime growth strategy, and boosting job creation in other sectors, including reafforestation for carbon sequestration. Emerging carbon markets and payments for forest protection (such as the Amazon Fund), could be utilized strategically to access resources and sustain their flow.

The government needs to alter existing incentives so that burning new forest or vegetation is no longer more cost-effective—and easier—than reusing or restoring already cleared land. New programs for training and technical assistance in land management and conservation ought to be established, along with legal frameworks that are enforced.

The externalities of industrial agriculture should be fully accounted for, priced, and paid by producers, including land degradation and forest loss. Creation of new labels for food products and commodities based on robust environmental, climate, labor, and ethical criteria should be encouraged and their broad adoption supported by government policies, institutional purchasing practices, and export initiatives.

Brazilian NGOs—spanning conservation, climate, development, food security, hunger, small farmers, sustainable food, and animal welfare, among others—should initiate a national dialogue on industrial agriculture and alternatives to it. The groups could also collaborate on public awareness and corporate campaigns. ■

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This policy brief is based on Brighter Green's policy paper, *Cattle, Soyanization, and Climate Change: Brazil's Agricultural Revolution* (PDF) by Mia MacDonald and Justine Simon, and is published as part of Brighter Green's Food Policy and Equity Program. Additional policy papers in the series on climate change and industrial animal agriculture in China, Ethiopia, and India, plus short documentary videos for each and resources on the globalization of factory farming, are available on Brighter Green's website: www.brightergreen.org