Forum
GEORGETOWN JOURNAL OF INTERNATIONAL AFFAIRS

CHARTING the Future of Food

Agriculture has always presented dilemmas. Everyone depends on farming for food, the most basic of life's necessities, and for most of the past 12,000 years, the vast majority of human beings have tilled the soil. Nevertheless, most cultures portray agriculture in, at best, an ambivalent light. In the Judaeo-Christian tradition, it is a curse that human-beings must earn bread for the table by the sweat of their brow. The traditional view of peasants in Japan is that they are like seeds—the harder you squeeze, the more oil you get—and so later Japanese rulers would tax agriculture to acquire the capital to develop industry. In France, "peasant" is a term of both honor and

5 **The Softest Subsidy**
Agricultural Subsidy Cuts, New Biotechnologies, Developing Countries, and Cotton
KYM ANDERSON AND ERNESTO VALENZUELA

13 **Food, Feed, or Fuel?**
Examining Linkages Between Biofuels and Agricultural Market Economies
SIWA MSANGI AND MANDY EWING

21 **Agricultural Trade and Climate Change**
Can the WTO Promote Resilience in the Face of Uncertainty?
LEE ANN JACKSON

31 **The Local Organic Food Paradigm**
ALEX A. AVERY AND DENNIS T. AVERY

opprobrium. Daniel Webster asserted that "farmers are…the founders of civilization," but his contemporary, Karl Marx, wrote of "the idiocy of rural life."

Today, farming and farm labor remain the source of livelihood for many hundreds of millions of people. Three billion people in developing countries—nearly half of the human race—live in rural areas, and most of them (2.5 billion) live in agricultural households. In low-income countries, agriculture accounts for over 20 percent of the economy, compared to a world-wide average of 4 percent and a mere 2 percent in the high-income countries. Agriculture remains significant in a number of wealthier developing countries, with Argentina, Brazil, China, India, and South Africa now among the key players in global agricultural trade and the World Trade Organization (WTO) negotiations.

Agriculture is still the source of much controversy as well. International development experts continue to have fierce debates about the role it should play. Agro-optimists see agriculture as crucial to overall economic growth, poverty reduction, and meeting all of the Millennium Development Goals. Skeptics don't see much of a future in farming, especially in Sub-Saharan Africa. While agriculture seems to be back on the agenda of donor agencies and African governments, aid to agriculture stands at half its level of 25 years ago in real terms, and low-income-country governments devote less than 5 percent of their budgets to agriculture and broader rural development, compared to 19 percent on the military.

In the industrialized global North, paradoxically, even though farmers account for a tiny share of the workforce, agricultural interests still have considerable clout when it comes to shaping public policy. The member countries of the Organization for Economic Co-operation and Development spend about a billion dollars each day on farm subsidies, at great expense to their more numerous taxpayers and consumers. Australia, Canada, the EU, and the United States remain dominant in global agricultural markets.

Agriculture also leaves a big environmental footprint. Farm chemical runoff pollutes the water; inappropriate practices can deplete and degrade once fertile soils; toxic pesticides cause human health problems and threaten biodiversity; and agriculture produces greenhouse gases that drive global warming. Also, farming is presently the main user of water globally, but with growing demand for water for industrial, household, and ecosystem services uses, will there be enough for agriculture in the future, especially given current projections of rising demand for food, feed, and fiber? In any event, the long-term viability of agriculture requires sustainable management of natural resources, and the right agricultural practices, such as planting trees and crops together, can sequester carbon and mitigate warming.

The authors of the four articles in this issue of the Journal's Forum on Agriculture boldly wade into contemporary debates about agriculture, and are not shy about taking strong and contrarian stances on key issues. Where many environmental and development nongovernmental organizations (NGOs) express skepticism about the role of science and

technology in agriculture, these authors are bullish about technology's potential to boost yields, protect the environment, move food around the globe, and resolve the tradeoffs among food, feed, fiber, and fuel uses of farm products in ways that do not leave the world's most vulnerable people poorer, hungrier, and ever more marginalized.

Critics of the WTO point out that whereas its Agreement on Agriculture calls on the wealthiest countries to remove trade barriers and end trade-distorting subsidies at a more rapid pace than developing countries, the reality is that the North has not liberalized agricultural trade much since the conclusion of the Uruguay Round negotiations in 1994. However, because developing countries face pressures outside the WTO from aid donors and the international financial institutions, they often have gone much farther towards free agricultural trade. This has sometimes had disastrous results for their own smallholders, as in the case of Mexico allowing duty-free imports of cheaper U.S. corn. In the view of critics, the WTO provides "special and differential treatment" for the rich rather than for the poor. This is because global trade practices, if not the written rules, reflect power realities.

In contrast to this perspective, the authors of the Forum articles are generally upbeat about the value of trade based on comparative advantage and a system of transparent and uniformly applied rules. Indeed, as Kym Anderson and Ernesto Valenzuela put it in their contribution, the combined effects of trade liberalization and adoption of new agricultural technologies based on genetic engineering would have substantial positive effects for the poor, cotton-producing countries of West Africa. And, as they point out, it is often small-scale producers who grow the bulk of the cotton in these countries. Anderson and Valenzuela also note that even the richest and most powerful WTO members, such as the United States, stand to lose before WTO tribunals when they engage in unfair trading practices, such as annual U.S. cotton subsidies that exceed the income of some of the West African producing states, drive down world prices, and cause increased poverty among developing-country farmers.

Meanwhile, markets for organic food are growing rapidly in the industrialized world, creating new opportunities for developing-country farmers. Many consumers believe that organic food is better for the environment and healthier. Not so, according to Alex and Dennis Avery. They insist that conventional agriculture, using synthetic inputs, and the adoption of agricultural biotechnology are actually better for the environment than the organic approach. High-tech agriculture permits yield gains on current agricultural land, avoiding expansion into wildlife habitat and forests, thereby preserving biodiversity. Given the need for manure (from animals or plants) as fertilizer, and limits on productivity gains, organic production to meet growing food demand from population and income growth would require cultivation of new land.

Avery & Avery also endorse reliance on trade to assure access to food, as efforts to achieve self-sufficiency put national food security at great risk in the event of a crop failure. Here, they

challenge those who promote greater reliance on local food systems as more energy efficient and environmentally friendly. In fact, Avery & Avery argue, long-distance sea and rail transport nowadays is extremely efficient. One might argue with them on this score in light of rising energy prices, particularly since they criticize the use of food crops to produce alternatives to fossil fuels. In their view, biofuels, like organic agriculture, threaten biodiversity by adding pressure to bring new land into production.

Siwa Msangi and Mandy Ewing offer a different viewpoint on biofuels. They argue that technological development and investment in more efficient cultivation, processing, storage, and distribution can lead to synergies that allow production for both food and fuels. In other words, just like Thomas Malthus and his contemporary disciples, who think that population growth will inevitably outstrip the earth's capacity to produce food, those who worry about "food-vs.-fuel" tradeoffs ignore human ingenuity and assume that there will be no further technological or institutional developments to address economic, social, and environmental challenges.

The final contribution, by Lee Ann Jackson, looks at how the WTO can help developing countries grapple with the impact of climate change. Research indicates that climate change may have devastating effects on agriculture in poor countries. Jackson argues that the "special and differential" trade liberalization rules for the poorest countries may help them adapt in the short-run, although, like Anderson and Valenzuela, she argues that free trade is best in the longer term. Jackson also points out that climate change may create new pest problems for agriculture, since many pests may no longer die as a result of cold weather. Pests seldom pass through customs and immigration when they cross international boundaries, so this may lead in turn to trade disputes and suspensions of trading relations. But WTO's Sanitary and Phytosantiary framework offers cooperative mechanisms for sharing information and addressing such problems. Thus, Jackson argues, although WTO was not created to address environmental challenges facing global agriculture, the existence of a rules-governed trading system may prove very useful to developing countries for managing those challenges. One might ask, however, whether the current impasse in global agricultural trade negotiations threatens the long-term viability of the WTO, thereby undermining its value in this regard.

Because agriculture remains fraught with controversy, and the authors stake out forceful positions in some of the current debates, it is certain that some readers will find much with which to disagree in these articles. Still, the authors offer a rich set of ideas for addressing a range of high-priority contemporary policy issues, and they also push us to look beyond conventional wisdom for solutions to difficult problems. In so doing, they give us much "food for thought."

Marc J. Cohen *is a Research Fellow in the Food Consumption and Nutrition Division of the International Food Policy Research Institute and a Professorial Lecturer in International Development at the Paul H. Nitze School of Advanced International Studies, Johns Hopkins University.*