

Global Food Crisis

What's causing the rising prices?

Food prices have spiked around the world over the past year, bringing hunger and unrest to many developing countries, along with pain at the checkout counter for lower-income American families. In North Korea, for example, where 35 percent of the population is undernourished, the price of the major food staple, rice, soared 186 percent, and overall food prices rose 70 percent. With 2.1 billion people around the world living on less than \$2 a day, such price increases may plunge hundreds of millions into malnutrition and starvation. Drought, high oil prices that make food transport pricey and diversion of corn for use as a biofuel all contribute to the price spike. The effect of globalization — which has led poor countries to abandon domestic food crops in favor of commodity crops for export — also has been blamed. The crisis also has sparked international tension over the impact of wealthy nations' farm subsidies and meat-heavy diets, which take many more resources to produce than grain- or legume-based diets.



A mother and her malnourished child wait for treatment on May 22, 2008, at a hospital in drought-stricken northern Uganda, where rising food prices threaten food-relief efforts.

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Global Food Crisis

BY MARCIA CLEMMITT

THE ISSUES

Spike food prices have brought pain at supermarket checkout counters for millions of American families this past year, but in many developing countries, the situation is far more severe:

- In Somalia, people who can no longer afford food in markets try to stave off starvation with a watery soup made from the mashed branches of thorn trees.¹
- In North Korea, where more than a third of the population is undernourished, the price of rice, the major food staple, soared 186 percent between 2007 and 2008, and overall food prices rose 70 percent.
- In Yemen, where 36 percent of the population is undernourished, wheat prices doubled.²
- In tiny Burundi, where about half the population is desperately poor, the price tripled for the landlocked nation's food staple, farine noir, a mixture of black flour and ground cassava root.³

With 2.1 billion people worldwide living on less than \$2 a day and another 880 million living on less than \$1 a day, price increases of such magnitude have plunged hundreds of millions into malnutrition and starvation.⁴

The price spikes have several causes, including drought and bad harvests in major food-exporting countries, high oil prices that make food more expensive to chemically fertilize and transport and a growing diversion of corn for use as a biofuel.

Some critics also blame the impact of globalization and the continued use



AFP/Getty Images/David Greedy

Flooded corn crops throughout the Midwest are contributing to rising food prices in the United States and abroad, where higher prices already have plunged millions of poor people into malnutrition and starvation. Drought, high transportation costs stemming from higher oil prices and a growing diversion of corn for use as a biofuel also have contributed to the price hikes.

of farm subsidies by industrialized nations, which they say undercut prices in poor countries.

With harvests expected to improve and more land being brought into cultivation, prices are expected to drop somewhat next year, according to the United Nations Food and Agriculture Organization (FAO) and the Organization for Economic Cooperation and Development (OECD), representing industrialized nations.⁵ Nevertheless, experts warn, serious pressure on the world's food supply poses a long-term threat.

"The era of cheap food may be over," as rising oil prices drive the cost of food production and transport upward, said Haruhiko Kuroda, president of the Asian Development Bank.⁶ Over the past several decades, the world's food system

has been transformed from local production to a global market, where many countries produce large quantities of just a few crops each, mainly for export, while depending on imports for much of their own food supply.

"A core problem is that 35 countries don't produce enough food to give their residents a 2,000-calorie-per-day diet, even if all their production was being distributed equally" among citizens, says Cornell University Professor of Applied Economics and Management Christopher B. Barrett.

Furthermore, most of the world's population growth now occurs in the very developing nations that are currently unable to produce enough food to feed themselves, Barrett says.

Readjusting the global food system to avoid future crises will require fundamental rethinking of how and where food is produced and how it's allocated, analysts say.

"We're running up against this brick wall called finite resources," mainly the fertile soil and ample water needed to sustain good harvests, says Randall Doyle, an assistant professor of history at Central Michigan University.

"I always tell [food] producers that this whole thing is not rocket science — it's far more complicated," says Jerry L. Hatfield, supervisory plant physiologist at the U.S. Department of Agriculture's (USDA) National Soil Tilth Research Laboratory in Ames, Iowa. To manage water resources successfully, for example, "you have to look at the whole landscape."

"Feeding 6 billion people is really hard," says Curt Ellis, a filmmaker in Portland, Ore., whose documentary on American farming, "King Corn," aired recently on PBS. "I don't think we've figured out the right way to do it."

“We’ve got to increase the supply,” says Mark Alley, a professor of agriculture at Virginia Tech and president-elect of the American Society of Agronomists.

That is especially difficult “in Europe, the United States and Australia, where our ability to exponentially increase food production is quite limited,” says Doyle. This means that the most attention must be spent on increasing agriculture yields in developing countries, especially in Africa, where agriculture is least advanced, he says.

However, development experts say, there’s no consensus on how future farming should look — what balance should be struck between large-scale industrial farming for export and smaller farms that produce food for local consumption.

“There’s no consensus in the global development community about agriculture,” says Peter Gubbels, vice president for international programs at World Neighbors, a nonprofit development organization in Oklahoma City that helps poor farmers in developing countries become self-supporting. Nevertheless, “there are growing movements in every country” to return to more local production, he says. “Some call that food sovereignty, and now we’re even beginning to see the U.N. and the World Bank” talking about it.

The food crisis has sparked international tension over the rich diets enjoyed by industrialized nations and the fear that, as developing countries add more animal products to their menus, food crises will increase.

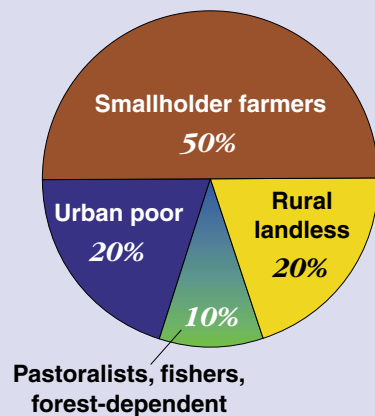
“There’s still plenty of food for everyone, but only if everyone eats a grain and legume-based diet,” said Peter Timmer, a fellow at the Washington-based Center for Global Development. “If the diet includes large . . . amounts of animal protein (not to mention biofuels for our SUVs), food demand is running ahead of global production,” he said.⁷

In India, the “middle class is larger than our entire population,” said Presi-

Small Farmers Are the Most Hungry

Half of the world’s people living in hunger are farmers with small landholdings.

The World’s Hungry



Source: Food and Agriculture Organization, “State of Food Insecurity in the World, 2004”

dent George W. Bush in May, and “when you start getting wealth, you start demanding better nutrition and better food,” including meat, which increases global food demand and “causes prices to go up.”⁸

But Indians reacted with outrage to Bush’s implication that their diets have fueled food-price spikes. “Bush is shifting the blame to hide the truth,” said Devinder Sharma, chair of the New Delhi-based Forum for Biotechnology and Food Security. “We all know that the food crisis is an outcome of the American policy of diverting huge land area from food to fuel production,” under a congressional mandate to increase use of biofuels, mainly corn-based ethanol.⁹

While greater consumption of meat in developing countries is a long-term trend, it’s not a factor in current price spikes, says Brian Wright, professor of agricultural and resource economics at the University of California at Berkeley.

For example, he says, Indians consume only 37 eggs a year per person, and “meat consumption is almost not on the charts.”

Other analysts argue that developing countries’ farm sectors have been crippled because the United States and other wealthy nations shut out poor nations’ farm exports while subsidizing their own farmers to sell abroad below cost.

“The U.S. and the European Union in particular have preached free markets but have been in blatant disregard” of trade rules, which they repeatedly tweak to their own advantage, says Thomas Dobbs, a professor emeritus of economics at South Dakota State University in Brookings. “We produce too much of the wrong kind of thing,” then “dump it on Third World markets and remove [those countries’] incentive for local production,” he says.¹⁰

But many U.S. policy makers hotly defend the subsidies. By and large, the United States has not constructed overwhelming trade barriers against agricultural products, said former U.S. Secretary of Agriculture Ann M. Veneman. U.S. farm subsidies “haven’t changed market access into this country. At least 91 percent of African produce comes into this country duty free.”¹¹

Addressing these contentious issues will be difficult because “the poor are voiceless,” says Cornell’s Barrett. “The loudest and often the shrillest voices are those who aren’t paying attention to the billion or so people who are living on a dollar or so a day.”

As farmers, scientists and policy makers seek ways to feed a changing planet and expanding population, here are some of the questions that are being asked:

Can enough food be sustainably produced to feed the global population?

Environmentalists warn that water and soil resources soon may be outstripped by growing dietary demands.

“As the economy grows, its demands are outgrowing the Earth,” said Lester R. Brown, founder of the Earth Policy Institute, which supports sustainable economic policies. “While the world economy multiplied sevenfold in just 50 years, the Earth’s natural life-support systems remained essentially the same. Water use tripled, but the capacity . . . to produce fresh water through evaporation changed little. The demand for seafood increased fivefold, but the sustainable yield of oceanic fisheries was unchanged,” he said.¹²

“The bottom line is that it is now more difficult for farmers to keep up with the growing demand for grain,” said Brown. “Food insecurity may soon eclipse terrorism as the overriding concern of national governments.”¹³

The current American diet, in particular, may not be sustainable, many commentators say.

“Perhaps three Earths would be required to support the current human population if everyone lived the over-consumptive North American lifestyle,” noted the environmentalist Web site OilEmpire.us.¹⁴

A factor in recent grain price hikes “is the amount that’s being used to increase the meat and milk supply,” as more people consume more such foods, says Virginia Tech’s Alley. “Can we produce all the food we need? Yes. All we want? Not necessarily.”

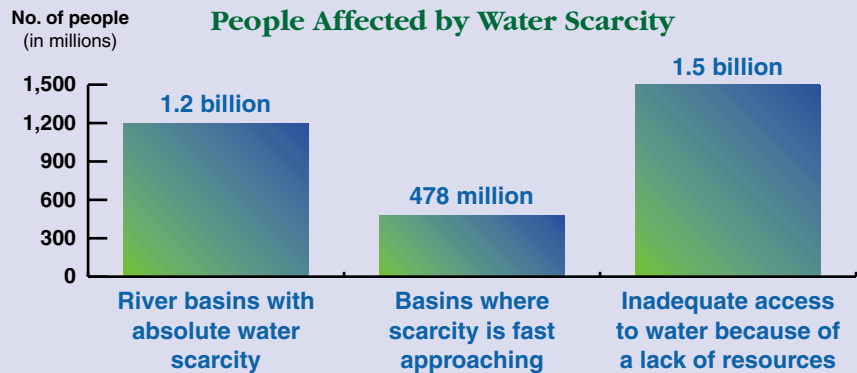
Furthermore, “there is no way to produce more food without occupying more land and taking down more trees” in the rainforest, said Blairo Maggi, owner of the soybean-producing company Andre Maggi Group and governor of Brazil’s Mato Grosso state.¹⁵

A growing number of analysts argue that today’s industrial-style agriculture, which depends heavily on fossil fuels for fertilizer manufacture and long-distance transport, cannot be sustained.

A 2008 report for the intergovernmental group International Assessment of Agricultural Science and Tech-

Billions Suffer From Water Scarcity

Three billion people — almost half the world’s population — face serious actual or potential water shortages. Most are in the Middle East and North Africa, followed by South Asia and sub-Saharan Africa.



Sources: International Water Management Institute, in “World Development Report 2008: Agriculture for Development,” The World Bank, 2007

nology for Development, based on input from private- and public-sector participants from developed and developing nations, concluded that “the dominant practice of industrial, large-scale agriculture is unsustainable, mainly because of the dependence of such farming on cheap oil, its negative effects on ecosystems and growing water scarcity.”¹⁶

As fossil-fuel supplies run out, farm products like corn are increasingly called into service as biofuel, and the heightened demand translates into higher food prices.

“I worry that with biofuels, the food market will end up looking like the worldwide pharmaceutical market. The rich will get theirs, and the poor will die,” says Berkeley’s Wright. “I would abandon the grain-based biofuels.”

Nevertheless, Wright and others say that human effort has vastly increased food production in the past and can continue to do so.

The improvements in agriculture made during the 20th century greatly increased food yields, says Wright. Today there is “some sign that the rate

of increase of yields is declining, but there’s no evidence that we’re going to reach a limit. We still have fairly good yield increases.”

“Potentially, can we feed everybody? Of course we can,” says Ray Cesca, president of the World Agricultural Forum, which aims to bring together public- and private-sector expertise and resources to improve world agriculture.

Success depends on investing in more agricultural research and then making sure it’s implemented, says Wright. “The economic returns on crop research are the highest” returns on any research, he says.

“Earth will have 9 billion people by 2050, and we need a 33 percent jump in food productivity,” says Doyle at Central Michigan University. “We need another Green Revolution,” he says, referring to the period from the late 1940s through the 1970s, when Western researchers spurred huge crop-yield improvements in developing countries, especially in Asia, using new high-yield grain varieties.

“Do we have the technology to increase the supply? Absolutely,” Alley

Hungry Countries Face Double Whammy

High food prices and climate change trigger unrest.

The recent worldwide price spike for grains and other food staples has left vulnerable populations in many developing countries at risk for malnutrition and starvation. And the growing hunger crisis leaves unstable nations open to “an emerging security problem as well,” says Cornell University Professor of Applied Economics and Management Christopher B. Barrett.

But the very instability of many developing nations also leaves them vulnerable to yet another threat — climate change.

Local circumstances largely determine which populations are the most vulnerable, says Johan Selle, director of operations at iJET, an international risk-management consultancy in Annapolis, Md. In rural Kenya, for example, former nomadic peoples “are really struggling,” says Selle. “Ten years ago they would have produced their own food,” but today many are urban dwellers without enough income to buy imported food at skyrocketing global prices, he says.

The food-price crisis has triggered riots and strikes in more than 30 countries, mostly places where existing political unease has made populations ripe for protest.

Countries like Jordan, which have enough financial stability to subsidize food for their poorest citizens, don’t see the unrest, Selle says. But “wherever there’s instability, food shortages are the final straw,” says Frederic Ngoga Gateretse, iJET regional manager for Africa.

“The capacity of pressure groups to organize” in a country and a population’s “history of taking to the streets” largely determine whether the food crisis has triggered unrest, Gateretse says.

Guinea, in West Africa, for example, “is pretty much a failed state, and trade unions there have the capacity to mobilize and get on the streets” after a 10-year struggle of opposition parties

trying to remove the current president from office, he says. Guinea has experienced four union-led food strikes, says Gateretse. Trade unions also have been involved in protests in the West African nation of Cameroon, where unrest over food prices lasted for five days in February and left many people dead or injured, he says.

Lack of a stable government or an economic infrastructure also paved the way for food strikes in Haiti, where the unrest was a response to the government’s long-term inability to take care of the people, says Selle.

Urban populations have been more likely to riot than rural populations “because the foods they buy to eat are more likely to be affected by price hikes, since they require fuel [to grow, produce and transport], like bread,” says Gateretse.

In some countries, riots are unlikely — even with extreme food stress — because citizens fear reprisals. Zimbabwe is suffering from severe shortages, for example, but people know that the military would crush any active rebellion “so they have yet to see protests on the street,” says Selle.

In any event, the impact of climate change on harvests worldwide likely means unrest over food supplies will long outlast the current price spike in many developing countries.

Many of the threatened countries lie near the equator and are at high risk for desertification and water shortages, says Gateretse. “Many governments in poor countries do not have the ability to anticipate or handle climate-change-related crises, and no one is training the governments to do so,” he says.

Wealthy nations, including the United States, have not offered the help that developing countries need to develop more stable food systems, said Jacques Diouf, director-general of the U.N.

says. “We have better varieties of seeds, methods to control pests,” and more. “The issue is implementation of these technologies.”

China provides evidence that yields can improve, Alley says. In the early 1990s, some predicted that China’s swelling population would soon require it to import virtually all the grain produced on the planet. But within a decade, China had implemented farm improvements that made the country a net grain exporter until as recently as last year, he says.

Developing countries have plenty of unfarmed arable — farmable — land, although barriers exist to its being brought into use, says Cesca. The greatest amounts of potentially arable land that can be

used — not counting rainforests — are in Africa, followed by Asia and Latin America, often in the most food-deprived nations, he says. Currently, however, poverty, unstable governments and a lack of business-friendly policies — such as local barriers to setting up banks or getting loans — block development of the land for farming, Cesca says.

Harvests can be improved even in very difficult environments if farmers get help to improve their practices, says Gubbels at World Neighbors.

In many places, such as the Sahel, a dry, semi-tropical belt of shrub- and grasslands that runs across Africa, farmers cannot get into [large-scale] industrial agriculture because “fertilizer costs three to

four times as much” as in the United States because of transport costs, Gubbels says. However, small farms can greatly expand their harvests if farmers get help to learn and adopt the best techniques, he says. “A lot of it is building on farmers’ own knowledge,” but beefing up agricultural-extension programs to teach best practices is vital, he says.

In mountainous areas, for example, few farmers have dug trenches at proper intervals to stem water and soil loss, partly because “it’s very labor intensive. But we got people to do this, and now all their neighbors are doing it,” with better crops as a result, says Josh N. Ruxin, assistant professor of public health at New York’s Columbia University and

Food and Agriculture Organization (FAO). “The developing countries did, in fact, forge policies, strategies and programs that — if they had received appropriate funding — would have given us world food security,” but the industrialized nations spent the money on subsidies for their own farmers instead, Diouf said.¹

But many analysts say that even if aid from wealthy nations had been available, unstable regimes in many nations can’t use the aid effectively.

“A lot of developmental solutions are undermined by corruption” in developing countries’ governments, says John Walton, a professor of sociology at the University of California at Davis.

“Many of the countries in most trouble are failed states,” says Brian Wright, a professor of agricultural and resource economics at the University of California at Berkeley. Without stable and functional governments, countries have “no local research capabilities,” without which agricultural science is ineffective, he says. “You can’t just take a plant from another country and stick it in the ground.” Local researchers must take research findings from elsewhere and figure out how to adapt them to local conditions.

Even the most well-intentioned assistance can easily fail if local government is unstable or corrupt, says Josh N. Ruxin, an assistant professor of public health at New York’s Columbia University and director of its Millennium Village Project in Rwanda. “Stability in government is extremely important. It means that interventions can be rolled out large scale, and faster,” he says.

“That’s one of the reasons I live and work in Rwanda, because now there’s a lot of transparency and stability in government,” Ruxin says. “If you look at a place that’s extremely corrupt, like Zimbabwe, with bad agriculture policies, you’re just hitting your head against the wall.”

Farming requires infrastructure, such as roads for farmers to get their crops to market, says Ray Cesca, president of the World Agricultural Forum, which seeks to improve world agriculture. “It’s up to the government to build the road, but sometimes the money disappears,” he says.

Unfortunately, stable governments are important for moving a population out of poverty and hunger, but poverty and hunger themselves act against development of stable government, says Thomas Dobbs, professor emeritus of economics at South Dakota State University in Brookings. “It’s a vicious cycle, and difficult to get out of.”

For example, a sustainable system to give a country food security would include “more domestic production, more garden plots” tended over the years right where people live, says Dobbs. “But when there’s a civil war and people are moved into camps, that system all falls apart.”

There’s plenty that industrialized countries like the United States, foundations and other donors can do to help, says Ruxin. For example, “very few governments in sub-Saharan Africa have sufficient agricultural extension [education] to reach all their farmers, and donor funds can have tremendous impact” by helping support such efforts, he says.

And the “failed-state” excuse for not offering assistance doesn’t hold water, says Cornell’s Barrett. “Of course, nothing productive is going to happen in Zimbabwe, but there are other places with elected governments that don’t get support” from wealthy nations. “Donors fiddle” while the future ebbs away, he says.

¹ Quoted in Elisabeth Rosenthal and Andrew Martin, “U.N. Issues Warning on Food Crisis,” *The New York Times*, June 4, 2008, p. A6.

director of the University’s Millennium Village Project in Rwanda.

“A lot of subsistence farmers have just scattered seed and prayed it would produce,” but encouraging underutilized practices like sowing seeds in rows to prevent young plants from crowding each other out can greatly increase harvests, even in the most unpromising regions, Ruxin says.

Do U.S. farm and trade policies harm poor people in developing countries?

Critics say U.S. policies that give hefty subsidies to American growers encourage developing countries to favor U.S.-produced food at below-market

prices. As a result, say critics, farmers in developing countries lose their local markets and grow poorer and developing nations themselves lose their food-production capability, risking famine if imports are unavailable or spike in price.

Other analysts argue, however, that American farmers need financial protection against fluctuating harvests and prices and that, ultimately, global trade is best for everyone.

Trade globalization helps developing countries create modern economies, rather than keeping them mired in a subsistence lifestyle, according to conservative British columnist Janet Daley. “What developing countries need is to develop,

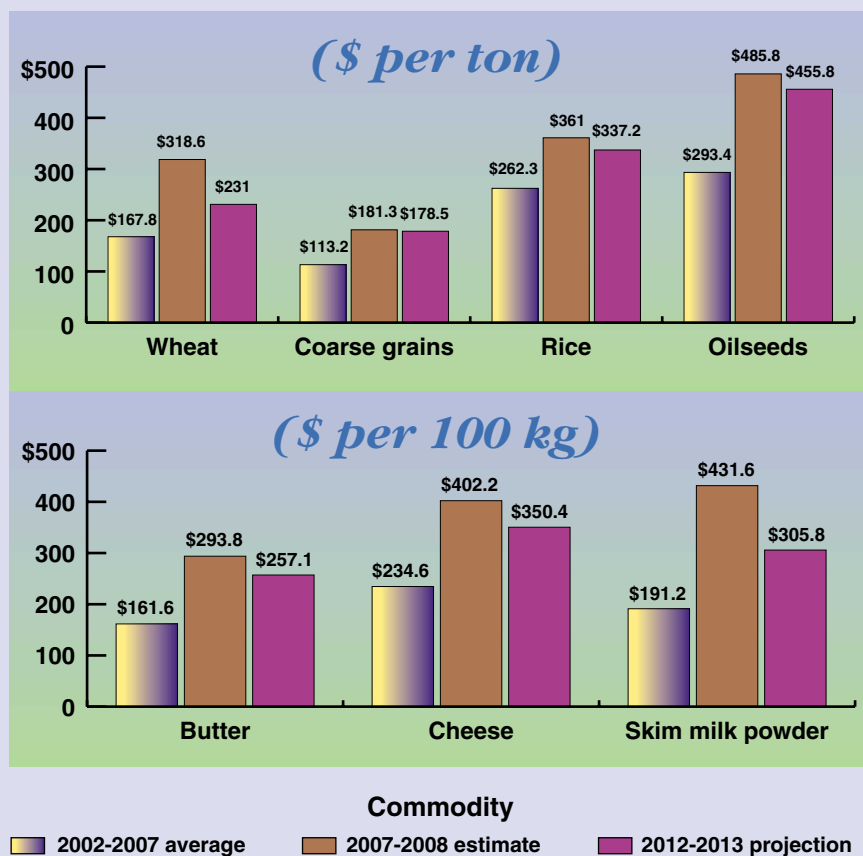
not to have their present conditions of life and work preserved like a museum exhibit,” she wrote. Replacing globalization with more local food production merely means “sustaining agricultural activity that would not otherwise be sustainable in the global marketplace.”¹⁷

Opening developing-world markets to imports can help those nations in the long run, says Berkeley’s Wright. There can be some value in keeping a modest local ability to produce farm staples like grains, but “globalization is what stops famines,” he says. Bad weather or bad farm-sector decision-making can mean severe food shortages, “but if you have another place to get food, you have a safety net.”

Food Prices Jumped 50 Percent

Prices for several food staples have risen dramatically in recent years. Most have increased by 50 percent, while skim milk powder has more than doubled. Prices are expected to drop in the future, but not back to earlier levels.

Average World Prices for Selected Commodities, 2002-2013



Source: "OECD-FAO Agricultural Outlook 2008-2017," Organisation for Economic Cooperation and Development, 2008

The argument for importing food rather than striving for agricultural self-sufficiency goes back to Scottish economist Adam Smith, whose 1776 classic *The Wealth of Nations* first described the logic of free-market capitalism. Global free trade in food is the international counterpart of Smith's key "proposition that people within a national economy will all be better off if they all specialize at what they do best instead of trying to be self-sufficient,"

said Jagdish Bhagwati, a professor of economics and political science at New York's Columbia University.¹⁸

In fact, the U.S. food market "tends to be fairly open" to developing-country products, said Bob Young, chief economist for the American Farm Bureau, which represents farmers. "The average tariff faced by countries trying to land agricultural products here is around 12 percent. The average tariff faced by our farmers is around 62 percent," making

U.S. trade barriers minor compared to those put up by countries in the rest of the world, Young said.¹⁹

U.S. farmers need subsidies to offset the much stricter food-safety and environmental regulations they face, said Young. U.S. subsidies amount to "compensation to help level the playing field" for the more heavily regulated U.S. farmer, said Young. "We provide protection to other sectors of the economy when they face unfair competition. Why should agriculture be any different?"²⁰

The key to determining conditions for the poor is not so much globalization itself but how governments respond to it, say some economists.

"Opening the economy to trade . . . need not make the poor worse off if appropriate domestic policies and institutions are in place," wrote Pranab Bardhan, a professor of economics at the University of California, Berkeley. Cases in point are the developing economies of Mauritius, South Korea and Botswana, whose citizens have prospered in recent years while the lot of the poor stagnated in other countries with similar resources, such as Jamaica, the Philippines and Angola, said Bardhan.²¹

But many commentators criticize U.S. farm and trade policy as harmful and hypocritical.

"The idea that you should import everything that you can buy cheaper from abroad means that you lose your ability to provide your own staples," a dangerous state that threatens nations' food security, says South Dakota State University's Dobbs. "Ironically, this is something the United States would never do" but persists in urging on others, he says.

The United States, Europe and Japan spend about \$350 billion a year subsidizing their own farmers, "and at the same time they negotiate trade agreements with other countries requiring them to drop their own farm subsidies," says Gubbels at World Neighbors. "As a result, governments [in developing countries] tell their people, 'Move to the

cities,' " thus shrinking their own farm sectors and driving up poverty. He describes a farmer in Ghana who raises chickens but can't sell them profitably in local markets because Europe dumps its excess chicken production in Africa at below-market prices.

A few decades ago, Haiti grew all the rice it needed and was one of the world's largest exporters of sugar and tropical produce, wrote William P. Quigley, a professor of law at Loyola University in New Orleans. But in April, food riots over high prices that threatened to push some families into starvation claimed the lives of six Haitians.²²

Quigley blames the United States — and the U.S.-backed World Bank and International Monetary Fund — for pushing Haitian leaders to open the way to imports that decimated the country's farms. "In the 1980s, imported rice poured into Haiti, below the cost of what our farmers could produce," said a Haitian priest quoted by Quigley. "Farmers lost their businesses. . . . After a few years of cheap imported rice, local production went way down."²³

Today Haiti, with an annual per capita income of \$400, is the third-largest importer of U.S. rice, writes Quigley. Meanwhile, U.S. rice farmers have been supported by three different government subsidies that averaged more than \$1 billion a year since 1998, Quigley said.²⁴

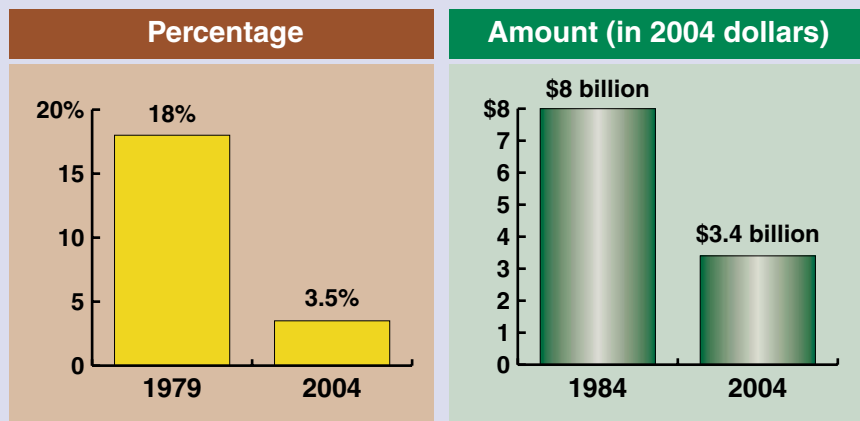
In Mexico, U.S.-subsidized corn, imported under the North American Free Trade Agreement (NAFTA), is "swamping small farmers," wrote Conn Hallinan, an analyst for Foreign Policy in Focus, a Washington think tank that seeks diplomatic solutions to international problems. "Some 2 million farmers have left the land, and 18 million subsist on less than \$2 a day, accelerating rural poverty and helping to fuel" emigration, he said.²⁵

"The extremely high level of U.S. government payments to farmers, while simultaneously encouraging other countries to reduce domestic agricultural supports," is an "egregious example of hypocrisy and double-speak," wrote

Agricultural Assistance on the Decline

Aid to agriculture amounted to only 3.5 percent of total development assistance in 2004, less than one-fifth the percentage 25 years earlier. Aid to agriculture in 2004 totalled \$3.4 billion, less than half of the amount in 1984.

Official Development Assistance for Agriculture



Source: "World Development Report 2008: Agriculture for Development," The World Bank, 2007

analysts from the University of Tennessee's Agricultural Policy Analysis Center.²⁶

Under World Trade Organization (WTO) agreements, the United States committed to reduce payments to American farmers but found ways around those commitments, which "have risen dramatically since 1996 and stand as a testament to U.S. admonitions to 'do as I say, not as I do,' when it comes to trade liberalization," said the center. "Our farm policy directly affects the livelihoods and sustainability of small farmers around the world."²⁷

Do U.S. food aid policies harm people in developing countries?

Historically, the United States has been the largest donor of food to developing nations, tiding numerous countries over crises.²⁸ But critics of U.S. aid programs argue that much U.S. aid may benefit American producers, including multinational corporations, more than hungry people abroad. Indeed, they say most development aid com-

pletely bypasses the poor in rural areas who need help the most.

America's oldest and biggest food aid program, Food for Peace, was signed into law by President Dwight D. Eisenhower in 1954. Since then, it and other programs "have brought together governments, businesses, multilateral institutes such as the U.N. World Food Programme (WFP), and American voluntary organizations in a valuable public-private partnership intended to reduce hunger," wrote Cornell's Barrett and Daniel G. Maxwell, an associate professor of development economics at Tufts University and a former regional director for the charity CARE International.

In its first 50 years, Food for Peace alone "contributed more than 340 million metric tons of food aid to save and improve the lives of many hundreds of millions of poor and hungry people," according to Barrett and Maxwell.²⁹

Food aid from the U.S. and other wealthy nations "clearly had a significant role in reducing loss of life during food

emergencies in such countries as Ethiopia, Sudan, Somalia, Afghanistan, Rwanda and Haiti,” according to analysts at the USDA’s Economic Research Service.³⁰

During Somalia’s 1992-1993 civil war, food aid contributed about 70 percent of Somalians’ food consumption and about half of Eritrea’s between 2000 and 2004, they wrote.³¹

“The United States has traditionally been the major provider of emergency food aid during international humanitarian disasters,” according to the Congressional Research Service (CRS), Congress’ nonpartisan research agency. Historically, the United States “has been the world’s largest provider of food aid, both emergency and non-emergency,” accounting for just over 55 percent of total food aid in the 1990s.³²

The resumption this May of U.S. food aid to North Korea is a “very timely” and “hugely significant contribution” that could head off the famine that threatens that country as food prices soar, said Jennifer Parmalee, a spokesperson for the World Food Programme. The U.S. suspended food aid to communist North Korea in 2006 but over the long term has been the country’s “biggest historical donor.”³³

A May announcement of a \$40 million, three-year food-aid package to Bangladesh will provide “a means and incentive for children to stay in school so Bangladesh can prepare the next generation of leaders,” since a large proportion of the aid will feed schoolchildren and pregnant and breastfeeding mothers, said James F. Moriarty, U.S. ambassador to Bangladesh. In 2007, floods and a cyclone destroyed crops in Bangladesh.³⁴

But the current structure of aid also causes problems, many analysts say.

“There’s an immediate need to reform the way we provide food aid,” says Gubbels of World Neighbors. The United States is now “the only developed country that obliges people to buy U.S. grain,” thus “tying its food aid to support” for large agribusiness companies like Decatur, Ill.-based Archer

Daniels Midland and Minneapolis-based Cargill. Canada and Europe have stopped that practice. The U.S. method is “expensive because you have to ship it all the way over there,” says Gubbels.

In addition, “these often are not the foods people are used to,” and bringing in tons of food from abroad ends up “degrading local agriculture,” Gubbels says. “If you really want to help, give them cash or try to buy the food locally,” he says.

The cost to taxpayers of food aid that must be bought from producers in the donor country and then shipped “has been shown to be significantly higher — in many cases 30-50 percent higher” — than aid from alternative sources, said the charity CARE USA.³⁵

Moreover, the timing and extent of aid often has more to do with market conditions in wealthy donor countries than with developing-countries’ needs, said the international charity Oxfam International. For example, in 1973, many developing countries faced food shortages, but that same year U.S. Food for Peace shipments dropped to less than a tenth of 1960s levels, according to the charity. The reason? Cereal prices were high around the world so grain producers’ revenues from “commercial sales made surplus disposal” of food as aid to developing nations “unnecessary,” said the group.³⁶

Critics also blast “monetization” — the U.S. practice of shipping American grain to charities in a developing country, which then sell the grain locally and use the proceeds to finance their work. In 2007, CARE announced it would stop accepting monetized food aid by 2009, saying that the process is inefficient and delivers food not to the hungry but only to people who can afford to buy it.³⁷

U.S. food aid has focused too much on addressing emergency situations “at the expense of addressing the chronic hunger and poverty that makes these crises so serious,” said the charity Catholic Relief Services (CRS). To help countries avoid future food crises,

food aid should be accompanied by other assistance, “such as investments in agricultural development aimed at small-scale producers,” said CRS.³⁸

Only 4 percent of development aid goes to small farmers, even though about 75 percent of those who survive on under a dollar a day live in rural areas, says Gubbels. Instead, most agricultural-development assistance goes to areas near coasts, where climate, land and location make it easier to produce large yields and export harvests efficiently into world trade, he says. A better policy for actually relieving hunger would be to “help the small farmers feed themselves,” Gubbels says.

Aid programs should also begin paying for new vitamin- and mineral-fortified ready-to-eat food supplements that developing countries can produce locally, Milton Tectonidis, chief nutritionist for the charity Doctors Without Borders, told CBS News’ “60 Minutes.” For example, small factories in three African countries now produce Plumpynut — a nutritionist-invented mix of peanut butter, powdered milk, sugar, vitamins and minerals — that can keep otherwise malnourished toddlers healthy for about \$1 a day and doesn’t require scarce refrigeration or clean water to use.

“In three weeks, we can cure a kid that looked like they’re half-dead,” Tectonidis said. “There’s many countries in Africa now saying, ‘We want a factory. We want a factory.’ Well let’s give it to them,” by redirecting some U.S. and European food aid to such projects, he said.³⁹ ■

BACKGROUND

Food Riots and Famine

“A hungry man is an angry man,” runs a proverb common to

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Chronology

1910s-1960s

Famines hit China, Russia and Africa. U.S. farm-support programs are created during the Great Depression.

1917

War Department's School Garden program urges students to plant vegetable gardens.

1928

Drought-driven famine kills 3 million people in northern China.

1943

Famine in British colony of Bengal — now Bangladesh and western India — kills up to 3 million.

1945

The number of Los Angeles children tending schoolyard gardens for the war effort hits 13,000.

1948

In the Green Revolution's first victory, Mexico produces enough grain to feed itself, using high-yield wheat varieties developed by Rockefeller Foundation-backed research.

1968

Four-year drought hits Africa's Sahel.

1970s *Drought and government mismanagement ruin harvests in several countries. World Bank and International Monetary Fund require developing countries to drop farm trade barriers in return for loans.*

1970

American plant-breeding pioneer Norman Borlaug wins the Nobel Peace Prize for improving crop yields in developing countries.

1973

Ethiopian government of Haile Selassie falls after its inaction allows drought to trigger a famine.

1977

India becomes self-sufficient in rice — another victory for the Green Revolution.

1980s-1990s

Large agribusinesses proliferate. Globalization of food-trading systems squeezes out small farms and local food processors. Commodity prices drop worldwide.

1995

Congress approves Community Food Projects grants to help charities feed hungry people with locally produced food.

1996

President Bill Clinton signs agriculture reform bill to wean farmers off government subsidies over seven years. . . . Floods, drought and the cutoff of food aid from China and the former Soviet Union bring famine to North Korea.

1998

Congress backs off subsidy reform, approving \$5.9 billion in emergency farm supports. . . . War and drought cause famine in Ethiopia.

2000s *Congress continues increasing farm subsidies, over objections from the World Trade Organization (WTO). Food shortages hit Zimbabwe after strife over who should control farmlands cripples agriculture in the country, once*

a major food exporter. Number of U.S. farm households falls to a few hundred thousand from 5 million in the 1930s, while farm output is 10 times larger.

2001

President George W. Bush calls for cutbacks in farm subsidies to prevent overproduction.

2002

Congress passes farm bill that increases subsidies.

2006

U.S. farm-research budget totals \$2.8 billion, down from \$6 billion in 1980. . . . U.S. support for developing-country agriculture totals \$624 million, down from \$2.3 billion in 1980. . . . WTO's Doha Round of international trade talks collapses over disagreement on U.S. and European farm subsidies.

2007

World grain stocks drop to historically low levels. . . . Congress increases requirements for biofuel in the gasoline supply, increasing U.S. demand for corn.

2008

U.N. Food and Agriculture Organization says 850 million people are undernourished. . . . U.N. warns that solving global food problems could cost \$30 billion a year. . . . Svalbard Global Seed Vault is opened in Arctic Norway to preserve food-plant biodiversity. . . . International Assessment of Agricultural Knowledge concludes that chemical fertilizer-based industrial farming has depleted soil and water and must be combined with organic and small-farm techniques to keep agriculture sustainable. . . . Congress passes farm bill rejecting Bush administration pleas to end shipment of U.S.-produced food as aid and buy food in developing countries' local markets.

More Than Seeds Needed to Improve Harvests

Poor farmers need access to credit, decent roads.

Worldwide anxiety over food prices could be a good thing if it finally focuses attention on building a sustainable food system for developing countries, agriculture experts say.

"Years ago, if we had the kind of concern we're seeing now, we wouldn't have these problems today," says Ray Cesca, president of the World Agricultural Forum, which seeks to improve world agriculture. For example, the United Nations' Millennium Development Goals include cutting poverty in half by 2015, "but we're going in the opposite direction," Cesca says.

Improving harvests takes investment in more than just seeds and fertilizers. Farmers in developing countries desperately need access to credit to help them through the inevitable ups and downs of farm production, says Peter Gubbels, vice president for international programs at World Neighbors, a nonprofit development group in Oklahoma City.

"When small-scale farmers run out of food, they go to a rich landlord and borrow a sack of grain," says Gubbels. "Then three months later they have to pay it back with interest, which may mean they have to leave their own fields and work as a laborer to pay off the debt." World Neighbors contributes seed money for local farmers' co-ops to create small banks "so that when they fall into need they can borrow from themselves and avoid the cycle of debt and slavery," he says.

Even to sell food in local markets, farmers need basic infrastructure such as roads.

To get a country on the right track, "feeding your own people has got to be the top priority," but many countries "haven't built the infrastructure for it," says Cesca. For example, in U.S. cities there are "central distribution points where everyone can go to buy and sell food, but that takes investment, and somebody needs the foresight to say, 'We'll have to create one of these,'" he says.

Similarly, in many developing countries, "most of the productivity rots in the field because there's no technology in cold storage" to preserve it, says Cesca.

Sub-Saharan Africa exports around \$10 billion in food-related

products annually, "but the local markets have the potential for around \$135 billion" in sales, "so why wouldn't you pay attention to the local markets?" Cesca asks.

In the past, wealthy nations have pushed developing countries to commit most of their agriculture to commodities for export, like coffee or sugar. But in the long run that's a losing strategy, says Josh N. Ruxin, an assistant professor of public health at New York's Columbia University and director of the university's Millennium Village Project in Rwanda. The current price spike aside, since the 19th century prices of basic commodities — like coffee, corn and sugar — "have all gone down," says Ruxin. "Over time, producing only commodities makes people poorer, even if they become more efficient and productive," he says.

A better plan is agricultural diversity, says Ruxin. "We ask, 'What different crops can we produce for both local and national markets?'" says Ruxin. This needs to be thought out carefully, he says. For example, Africa can't export mangoes to Europe because storage and transport are too expensive. "But they can grow mangoes and export dried organic mango strips processed locally."

And mango strips are only the beginning, says Ruxin. On 32 hectares of formerly abandoned land, a farm coop recently planted the first pomegranate trees in Rwandan history in coordination with the federal U.S. African Development Foundation and a Los Angeles-based company, POMWonderful. "Israel and Turkey can only produce so many pomegranates," and there's room for developing nations to get in on the game, says Ruxin. "The answer lies in asking, 'What crops will do well?'"

In the current price crisis, the hungry need immediate aid, Ruxin says. But solving long-term food problems requires patience.

"One reason African farmers don't plant fruit trees is because they take five to eight years to mature, and that doesn't work when you're hungry today," he explains. That's where focused research can help. A new variety of mango tree will produce a 50-fruit crop in two years, increasing to 500 fruits in five years, Ruxin says. "Five hundred mangoes that sell for a dollar apiece" can mean an unheard-of level of wealth for a subsistence farmer, he says.

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nations from Zimbabwe to Scotland. Like hunger itself, protests over food shortages have occurred throughout history.

"America has a history of food riots, though the last were in the Depression," and "I wouldn't be surprised to see them again here," says Rose Hayden-Smith, a fellow in the foundation-funded Food and Society Policy program in Columbia, Mo., and a youth-and community-garden adviser for the

University of California's Master Gardener Program.⁴⁰ The Civil War saw food riots in the United States, as did the so-called Gilded Age of the 1890s, an era marked by corporate corruption and a rising income gap between rich and poor, she says.

Some food protests are spontaneous revolts by hungry citizens, while others are organized by activists like unions and linked to broader political events.

In Northern France in 1911 rising prices and a meat shortage due to hoof-and-mouth disease spurred women to march "to the markets in protest," demanding "lower prices and dump[ing] carts of eggs and butter if and when their demands were not met," wrote Lynne Taylor, a professor of history at the University of Waterloo in Ontario, Canada.⁴¹

In Barcelona, Spain, in 1918, women's groups led rioting to protest inflationary food prices during the country's post-

World War I economic collapse. Rioting women “attacked bread shops and coal wagons and took over a ship laden with fish,” wrote Taylor. When police tried to break up the crowds, “the women turned on them, stripping some officers of their pants” and “thrashing them.”⁴²

In the 1970s and '80s a “global wave” of food riots in developing countries was sparked by “structural-adjustment” policies imposed by the International Monetary Fund and World Bank as a condition for developing nations to receive loans. These free-market adjustments included “incentives to go from small-farm agriculture to industrial, export-driven agriculture” and requirements to cut government subsidies for items like food staples and bus fare, says John Walton, a professor of sociology at the University of California at Davis.

Often, the result was “prices doubling overnight,” triggering protests seen in numerous countries over the decades, he says. “Some countries had 10 or 12 instances of strikes and demonstrations.” Governments had a variety of reactions, with some working out softer ways of making the prescribed changes, such as making them temporary, says Walton. At the extremes, consequences were harsh for governments and citizens, he says. “Sudan’s government fell. Some governments just plowed ahead and repressed the protesters,” killing 50 in Morocco and 40 in Cairo, Egypt.

Food crises generally are more political and economic events than natural ones, scholars say.

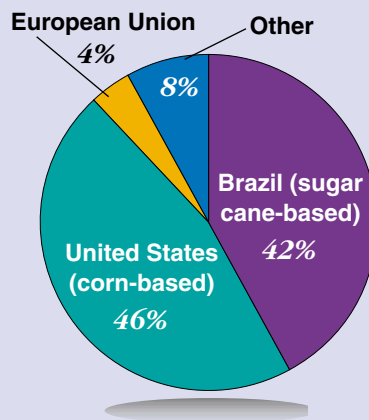
“Famines themselves, when looked at historically, have turned out not to be about food supply so much as about food distribution,” says Walton.

Economic and political inequality lie behind famine, according to Indian economists Jean Dreze, of the Dehli School of Economics, and Amartya Sen, a professor at Harvard University who won the 1998 Nobel Prize in economics. “The developing of modern

U.S. and Brazil Produce Most Ethanol

The United States and Brazil made nearly 90 percent of the 40 billion liters of ethanol produced in 2006. Some critics say the food crisis is partly the outgrowth of diverting land from food to fuel production.*

Worldwide Ethanol Production, 2006



* A U.S. gallon contains 3.78 liters.

Source: “World Development Report 2008: Agriculture for Development,” The World Bank, 2007

economic relations and of extensive interdependences even between distant parts of the economy” has created “many new ways in which different sections of the population can see . . . their command over food shift violently and suddenly,” they wrote.⁴³

For example, the shift to a world economy where virtually every country makes the bulk of its income through trade and where most cheap staple foods are imported has increased the risk of hunger for many, wrote Sen and Dreze. “Pastoralist nomads can be reduced to starvation if the relative price of animal products falls in relation to that of staple food, since their subsistence depends

on their ability to sell . . . animal products . . . to buy enough calories from . . . grain. Fishermen may go hungry if the price of fish fails to keep up with that of . . . rice.”⁴⁴

The world’s growing numbers of wage laborers who own no land that they can farm to tide them over tough times are “particularly vulnerable” to famine in the modern era, Dreze and Sen noted.⁴⁵

Modern-day food crises are most acute in developing nations, many of which were operated for centuries as colonies of European nations, and “the colonial powers invested little in the food production systems” of their colonies, according to the Washington, D.C.-based International Food Policy Research Institute (IFPRI).⁴⁶

As a result of such policies, “by the mid-1960s, hunger and malnutrition were widespread” in the developing world, “which increasingly depended on food aid from rich countries,” said IFPRI.⁴⁷

Increasing the Harvest

While the political world has yet to figure out how to ensure that food is distributed fairly, agricultural scientists — boosted by large government investments in research — have been busy, developing farm techniques that increased harvests exponentially.

Beginning in the 1890s, Germany, the United Kingdom and the United States launched major agricultural-research enterprises, says the University of California’s Wright. At the time, rising demand from growing populations was forcing farms to expand into less fertile land, but research on higher-yield plants and better growing methods kept yields increasing, says Wright.

“The story of English wheat is typical,” according to the IFPRI. “It took nearly 1,000 years for wheat yields to increase from 0.5 to two metric tons per hectare, but only 40 years to climb from two to six metric tons per hectare.”⁴⁸

Is America's Food System Ripe for Change?

Return to locally grown food is advocated.

Americans spend an average of only 10 percent of their disposable income on food, compared with 50 percent in Indonesia and 30 percent in China. U.S. spending today is also low by historical standards: In 1933, Americans spent about a quarter of their income on food.¹

Nevertheless, with food prices spiking, more Americans are feeling pain at the supermarket checkout. "Our [monthly] food bills are \$600, \$700," up from around \$400 a year or two ago, said Jomarie Ortiz, the mother of four teenage sons in Bloomfield, N.J. "The cereal [price] was astronomical."²

Food experts say the rising prices are but one indication of serious, long-term problems in the American food system, which relies too much on fuel-guzzling long-distance shipping and single-crop, commodity-based agriculture that damages the environment and stints human nutrition needs.

"In the last half-century we made a profound choice to have the bulk of our food system in commodity crops, like corn, soybeans and rice," says Curt Ellis, the Portland, Ore.-based filmmaker of "King Corn," a documentary on American farming that aired recently on PBS television. "These dominate our diets in unrecognizable forms," from the fast-food hamburger made from corn-fed beef to soda sweetened with corn syrup rather than with sugar or honey, he says.

"All across our food shelves are products that are seemingly diverse but actually are not" when you read labels carefully, Ellis says. The result is a meat- and simple-carbohydrate-heavy

diet that sees "one-in-three first-graders on the road to developing Type 2 diabetes" and "young people in America today — my generation — potentially having shorter lifespans than their parents," says the 28-year-old Ellis.

In addition, environmentally sustainable farming methods aren't yet the order of the day in American agriculture, despite the real possibility that depleted soils and fluctuating rainfall — partly brought on by climate change — may threaten future harvests.

"Even with our productive crop yields, we've got spots in the heartland with really poor yields because" of soil erosion, depletion of soil nutrients and water problems, says Jerry L. Hatfield, supervisory plant physiologist at the U.S. Department of Agriculture's National Soil Tilth Research Laboratory in Ames, Iowa.

"We need to focus on how reliant we are on a good natural-resource base" of rich soil and sufficient water, Hatfield says. "We can work on this genetic stuff" — breeding or bio-engineering higher-yield or hardier plant varieties — "but at a certain point environment" is the determining factor for harvests, he says. "I don't want to be an alarmist, but I still believe that we're on a path where our soils are continuing to degrade, and when I look at our practices, we could do a lot more" to conserve soil, Hatfield says.

"When you choose to plant 90 million acres with just one crop — corn — it's a thirsty crop, a nitrogen-thirsty crop," so

Agricultural disasters themselves often spurred improvements.

In the 1930s, for example, the Great Plains of the United States and Canada — especially Kansas, Oklahoma and the Texas panhandle — turned into a veritable "Dust Bowl." Drought combined with decades of intense, single-crop farming allowed wind to blow the once-rich topsoil away in huge dust clouds, darkening skies all the way to the East Coast and rendering millions of acres of farmland useless.

Out of the disaster came better soil conservation, says the USDA's Hatfield. In fact, "one of the places where we've done the best at conserving soil is the Great Plains," he says, by means such as reduced plowing, which helps keep soil from drying out.

But while the industrialized world increased its farm yields through science in the first half of the 20th century, developing countries made little progress, even as their populations soared. By the 1960s, hunger in the developing world, especially Asia, could no longer be ignored. A 1967 report of the President's Science Advisory Committee noted that "the scale, severity and duration of the world food problem are so great that a massive, long-range, innovative effort unprecedented in human history will be required to master it."⁴⁹

At the time, American entomologist and population scientist Paul Ehrlich predicted that hundreds of millions of people would starve to death during the next few decades because Earth was incapable of sustaining the population explosion, says Wright.

"These were very confident predictions in those days," Wright says. "Why didn't it happen? Because of the increase in crop yields, and that didn't happen by accident" but through investments in research, he says. "Indians have a life expectancy in the 60s today, up from the 40s to 50s several decades ago," and much of that comes from better nutrition. "There is about a third more food available per person in the world today than when Ehrlich was writing."

Beginning in the mid 1940s and accelerating in the '60s, the Rockefeller and Ford foundations began promulgating new farming products and techniques in developing countries, including improved irrigation, better crop-management techniques and, first and foremost, new varieties

it depletes soil resources and “doesn’t make efficient use of the limited water and nitrogen that we have,” says Ellis.

Environmentally sustainable farming generally requires more crop diversity, says Thomas Dobbs, professor emeritus of economics at South Dakota State University in Brookings. “You can’t just do corn/soybean cropping,” as farms from Ohio to North Dakota mostly do today, he says. “You also have to have small grains like wheat or oats and some plants like clover or alfalfa,” which take nitrogen from the air and return it to the soil where it acts as a fertilizer, he says.

Some farmers argue that they can’t diversify their fields because under current law they can only get government subsidies by keeping many acres in corn and soybeans, says Hatfield. “But if we focused on food security, we’d think about changing to a more diverse system of crops.”

The American food system has been nationalized, with little food grown close to where it’s eaten, and changing that is job No. 1 in the eyes of many food analysts, as fossil-fuel prices rise.

“In a petroleum-limited world, the best solutions are the ones you can find close to home,” says Ellis. “It’s unfathomable to me that Iowa can feed the whole country with corn but grows so few fruits and vegetables,” even though “fruits and vegetables used to grow just fine there.”

“In Virginia 10 or 12 years ago, we developed a good system with a nice niche for growing fall broccoli, but we couldn’t compete with California’s competitive advantage because of

their climate and [higher] yield,” says Mark Alley, a professor of agriculture at Virginia Tech. But with fuel prices rising “that’s changing” back in favor of more local growing, he says.

But switching to locally grown produce will require rebuilding a lost food infrastructure.

“We’ve created a national food system, stripping rural areas of food-processing capabilities,” says Rose Hayden-Smith, a youth- and community-garden adviser for the University of California’s Master Gardener Program. Processing and distribution infrastructure will need to be rebuilt from the ground up, she says.

Furthermore, urban farming and home and city-lot community gardening should be brought back in a big way, says Hayden-Smith. “We need the government to introduce ‘victory gardens’ again,” she says. “They were phenomenally successful, especially in World War II, when America was able to export much more food to our starving European allies” because the “citizen gardener” — including schoolchildren — produced so much of the food eaten in U.S. homes, says Hayden-Smith.

“I’d like to see the White House put in a garden,” just like first lady Eleanor Roosevelt did, she says.

¹ “Americans Spend Less than 10 Percent of Disposable Income on Food,” *Salem-News* [Salem, Ore.], July 19, 2006, www.salem-news.com.

² Andrew Martin and Michael M. Grynbaum, “Costs Surge for Stocking the Pantry,” *The New York Times*, March 15, 2008, p. A1.

of wheat, rice and other grains that were more responsive to modern chemical fertilizers.⁵⁰

This so-called Green Revolution provided “the highest return on a public investment in recorded history,” says Cornell’s Barrett. For an amount variously estimated at between several hundred million and 1 billion dollars, “we kept a billion people from falling into poverty and moved a billion out of poverty. That’s a remarkable accomplishment.”

By the 1990s, nearly 75 percent of Asian rice came from Green Revolution seeds, along with about half the wheat planted in Africa, Latin America and Asia and about 70 percent of the world’s corn, according to Food First, an Oakland, Calif.-based anti-hunger think tank.⁵¹

More recently, however, the limits

of the Green Revolution’s achievements have become clear.

For one thing, “we basically became complacent” about agriculture’s achievements, and “investments in research have slowed radically,” says Barrett. Furthermore, “we took for granted that agricultural yields were going to continue to improve,” partly because of continued heavy use of fertilizers. “But now — with worries about the environment growing — fertilizer use has dropped off,” meaning that continual yield increases are no longer assured, he says.

Finally, the focus on agricultural yield does nothing to change economic and political problems that are root causes of most famines, said Food First. “If the poor don’t have the money to buy food, increased production is not going to help them.”⁵²

Subsidies and Trade

Congress enacted its first farm-subsidy legislation in 1933, during the Great Depression, to ensure farmers had a stable enough income to keep farming, even in tough times.⁵³

“Since then, in various ways and to varying degrees, Congress has sought to raise farm income through a combination of commodity-specific price supports and supply controls, mainly import restrictions,” according to trade analysts at the Cato Institute, a libertarian, Washington-based think tank.⁵⁴

Subsidies “originally were intended to raise farm prices and incomes from Depression levels and to provide greater income stability,” wrote South Dakota State University’s Dobbs. “The goal was

to maintain a nation of moderate-sized family farms.”⁵⁵

In the second half of the 20th century, however, the food-supply web changed dramatically. International trade in food commodities swelled, huge food-processing companies gained control of international food markets and giant agribusinesses squeezed out small and medium-sized family farms. These developments led critics to argue that wealthy nations’ farm subsidies should be scrapped.

“Only 8 percent of producers receive 78 percent of subsidies,” with 80 percent of farmers getting an average subsidy of under \$1,000, wrote Keith Ashdown, vice president for policy at the Washington advocacy group Taxpayers for Common Sense. “Farm payments are based on production levels, so the bigger the farm, the bigger the government check,” and the family farmers whom subsidies originally were designed for see virtually no assistance today.⁵⁶

Intense constituent pressure on farm-state politicians has kept subsidies in place, however.

For example, U.S. guarantees of a minimum price to sugar producers and trade barriers to keep foreign sugar out have long raised concerns, and the U.S. House in 1996 came within five votes of abolishing the sugar supports, wrote Mark A. Groombridge, a research fellow at the Cato Institute and now a special assistant in the State Department’s Office of Arms Control. Since 1996, however, Congress has actually increased sugar supports, despite widespread criticism.⁵⁷

Beginning in 1995, the WTO has worked toward international consen-

sus on rules to lower trade barriers worldwide. Since 2001, the trade organization has focused on reducing agricultural trade barriers in the so-called Doha Development Round of negotiations.

The Doha Round has stalled, however, mainly because wealthy nations refuse to alter their subsidy programs while insisting that developing nations abandon their own trade barriers and farm supports. For example, both U.S. cotton subsidies and the European Union’s sugar programs have been found in violation of WTO rules, but the programs have not been revised, said the Cato Institute analysts.⁵⁸

In 2003, at a street protest against WTO talks being held in Cancun, Mexico, Lee Kyung Hai, a South Ko-



Grain and rice vendors wait for customers at a market in Beijing, China, in July 2007. Farm improvements made China a net exporter of grain until last year, when high prices began putting food staples out of the reach of many Chinese.

rean farmer and former director of the Korean Advanced Farmers Union, committed suicide by stabbing himself in the heart; he was carrying a banner that read “WTO Kills Farmers.”⁵⁹

Earlier, Lee had spoken of another farmer who committed suicide by swallowing poison, after falling into serious debt. “I was powerless to do anything but hear the howling of my friend’s wife,” he said.⁶⁰

CURRENT SITUATION

Price Spike

Skyrocketing prices for food staples are fueling protests around the world this year.

“In 2006, no one was predicting this current price boom,” says David Orden, a senior research fellow at the International Food Policy Research Institute and a professor of economics at Virginia Tech. A constellation of supply-and-demand factors came to-

gether to drive prices skyward, and though “good crops are forecasted this year, they are not harvested yet, so people are still nervous” enough about future food availability to keep demand high, he says.

High demand and a historically low supply of commodities like grain are the main drivers of the price spike. For example, “we’re at historic lows of grain inventories,” says Cornell’s Barrett. “In the U.S. we have less than one month’s supply when there are usually three or four.”

A long-term drought that has slashed Australia’s grain exports has also contributed to a scare that caused some other rice-producing countries to ban their exports, out of fear they would not have enough to feed their own people, says Berkeley’s Wright.

Most recently, a disastrous May 2 cyclone devastated crops in Myanmar, which had been among the few countries expected to export rice in 2008.⁶¹

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At Issue:

Is the U.S. ethanol fuel program worsening the world food crisis?



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FROM TESTIMONY BEFORE THE HOUSE ENERGY AND
COMMERCE SUBCOMMITTEE ON ENERGY
AND AIR QUALITY, MAY 6, 2008

diversion of corn to ethanol is playing a significant role in reducing corn supplies for food and feed. In 2008 the U.S. Department of Agriculture estimates that 3.1 million bushels of U.S. corn will be used to produce biofuels. That's an increase of nearly 50 percent over the 2.1 million bushels last year and close to twice the 1.6 million bushels of 2006.

In 2008 the U.S. will convert approximately one-quarter (23.7 percent) of our corn production into biofuels. We're rapidly diverting larger portions of our corn supply to fuel, leaving less for food.

For about 1.2 billion people around the world, corn is the preferred staple cereal. Consider that the U.S. produces more than 40 percent of the world's corn supply. Dedicating 3.1 million bushels of corn for ethanol this year will take more than one-tenth of the global corn supply off the market for food and feed. Furthermore, the U.S. exports nearly twice as much corn as all the other exporters combined. So, reduced supply and/or higher prices in the U.S. corn market have significant implications for the rest of the world.

Although ethanol mandates and subsidies directly impact corn prices, they also have cascading impacts on other agricultural commodities. Higher corn prices are encouraging farmers to commit more acreage and agricultural inputs to corn. This leaves less for other crops, especially soybeans, which are often planted in alternate years with corn. As a result, production for other commodities is lower and prices are higher.

Higher corn prices also lead consumers to choose other, cheaper cereals to substitute for food or feed. Over time, this increased demand increases the prices for other commodities.

"Biofuel demand has propelled the prices not only for corn but also for other grains, meat, poultry and dairy through cost push and crop and demand substitution effects," according to the [International Monetary Fund's] World Economic Outlook.

The International Food Policy Research Institute (IFPRI), one of the premier organizations tracking food and hunger issues, estimates that biofuels will drive up corn prices by between 27 percent and 72 percent by 2020, depending on the scenario. Other commodities such as oil seeds used for biodiesel fuel would rise by 18 percent to 44 percent. "In general, subsidies for biofuels that use agricultural-production resources are extremely anti-poor, because they implicitly act as a tax on basic food, which represents a large share of poor people's expenditures," the IFPRI said.



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FROM TESTIMONY BEFORE THE HOUSE ENERGY AND
COMMERCE SUBCOMMITTEE ON ENERGY
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recently, the media and ethanol critics have demonized corn ethanol and attempted to solely blame rising food costs on higher commodity costs and government policies promoting renewable fuel.

In attempting to justify their opposition to ethanol expansion and the Renewable Fuels Standard (RFS) enacted by Congress in 2007, opponents continue to claim that higher corn prices are causing higher retail food prices. A look at the facts surrounding food prices simply doesn't support that logic.

More so, the effects of \$120-per-barrel oil have far-reaching effects on the consumer price for food. A recent study by the Oregon Department of Agriculture details the factors affecting food price: a growing middle class in Latin America and Asia; drought in Australia; low worldwide wheat stocks; increases in labor costs; a declining U.S. dollar; regional pests, diseases, droughts and frost; and marginal impacts from ethanol demand for corn and sugarcane.

One recent study found that a \$1-per-gallon increase in the price of gas has three times the impact on food prices as does a \$1-per-bushel increase in the price of corn.

In fact, just 19 cents of every consumer dollar can be attributed to the actual cost of farm products like grains, oilseeds and meat. Retail food products like cereals, snack foods and beverage corn sweeteners contain very little corn. Consider that even when corn is priced at \$5 per bushel, a standard box of corn flakes contains less than eight cents' worth of corn.

Corn is a more significant ingredient for meat, dairy and egg production. Still, corn represents a relatively small share of these products from a retail price perspective. As an example, according to the National Cattlemen's Beef Association, it takes about three pounds of corn to produce one pound of beef. This equates to 27 cents' worth of corn in a pound of beef when corn is \$5 per bushel.

Because corn and other grains constitute such a small portion of retail food products, higher grain prices are unlikely to have any significant impact on overall food inflation, according to a number of experts. According to [U.S. Department of Agriculture] economist Ephraim Liebttag, a 50 percent increase in corn prices translates to an overall increase of retail food prices of less than 1 percent. Similarly, a recent analysis by Informa Economics found that higher corn prices "explain" only 4 percent of the increase in retail food prices.

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Demand pressures also are driving up prices.

Notably, in its 2005 energy bill, Congress mandated adding 4 billion gallons of renewable fuel — mostly corn-based ethanol — to the U.S. gasoline supply in 2006, with increased amounts added in succeeding years.⁶²

The mandate drives up demand and prices for corn, says Barrett. And in our processed-food world, corn demand is already much higher than many realize, he says. “Corn feeds chickens and sweetens soft drinks” to name just a few uses, Barrett says. Rising corn prices also drive up prices for meat and other sweeteners like sugar cane, he says.

Investors are also driving the price spike. Many have been dabbling in the grain markets as other investment sectors, such as housing, have become unstable in the past year.⁶³ The new investors also have encouraged “some speculators to withhold grain from the market in hopes of selling it for a higher price later,” says Central Michigan University’s Doyle.

But while speculation has been a factor in recent price spikes, it “will not in the long term keep prices high, because there’s only so much wheat or corn . . . that someone can hold off the market . . . because it is a perishable product,” said Dean Baker, co-director of the Center for Economic and Policy Research in Washington.

To some extent, the demand-supply equation will come into balance naturally and food prices will drop again, says Barrett. To meet high demand, “farmers will put more land into cultivation and use more fertilizers,” he says. But the poorest countries will have the most trouble making adequate adjustments, he says. “Poor farmers can’t get credit” to put in irrigation systems, for example, he says.

Columbia University’s Ruxin says the price surge could actually lead to a new era of smarter agricultural development in developing countries.

“The overall direction over the decades” has been to steer African nations toward large-scale industrial farming of products for export to Europe and the United States, but “overnight that policy has been stood on its head,” Ruxin says. Today, “if you’re a poor, subsistence-level farmer and eat what you produce and maybe trade a little, and prices go up 60 percent, your food is suddenly extremely valuable, and your ability to get into the market is greater,” which could help build local agriculture, he says.

“We’re asking how can we help smaller farms cooperate” to produce for local and regional markets, where buyers have been hit exceptionally hard by the price of imported grain. Thanks in part to the price spike, “the jury is clearly coming down on the side of producing more locally, and that was not the picture five years ago,” says Ruxin.

Farm Bill

A flurry of attention followed April statements by U.N. food officials branding recent food-price spikes as signs of a long-term disaster in the making.

High food prices are “creating the biggest challenge that the [World Food Programme] has faced in its 45-year history, a silent tsunami threatening to plunge more than 100 million people on every continent into hunger,” said WFP Executive Director Josette Sheeran.⁶⁴

“We must take immediate action in a concerted way,” said U.N. Secretary-General Ban Ki-moon.⁶⁵

But food and farm politics are intensely national and too easily override international concerns. A case in point, say critics, is the new U.S. farm bill, which Congress overwhelmingly approved in May, 318-106 in the House and 85-15 in the Senate, overcoming an earlier presidential veto.⁶⁶

The bill trims some farm subsidies and increases the percentage of funding for U.S. nutrition programs, such as food stamps and the Fresh Fruit and

Vegetable Snack Program for schools, said House Agriculture Committee Chairman Collin Peterson, D-Minn., a supporter of the bill.⁶⁷

“Today’s overwhelming vote was an indication that we produced a strong, bipartisan farm bill that is good for our farmers and ranchers and essential to our state,” said Sen. Amy Klobuchar, D-Minn., a member of the Senate Agriculture Committee.⁶⁸

But the legislation comes in for harsh criticism from others.

The farm bill “is a travesty, it’s disgusting” says Berkeley’s Wright. “When farmers are richer than ever and the poor can’t eat, they gave \$10 billion more to farmers.”

Singled out for special censure are the legislation’s protections for U.S.-produced sugar, particularly championed by Peterson, whose home state of Minnesota is a major sugar-beet producer.

The bill raises subsidies for U.S. sugar producers and requires imported sugar to be used for ethanol production, not food, “virtually locking in an 85 percent share of the U.S. market for domestic . . . growers, even though a number of foreign countries can grow sugar more cheaply,” wrote trade analyst Daniel Griswold of the Cato Institute. The sugar provisions interfere with free trade and drive up prices for American consumers, he insisted.⁶⁹

“This farm bill just heads in the wrong direction in terms of our international obligations,” which is why President Bush vetoed it, said Deputy Secretary of Agriculture Chuck Conner. “We would expect [nations that trade with the United States] to protest in every way they can.”⁷⁰

During the more than year-long battle over the new bill, the legislation’s architects also remained at odds with President Bush and many anti-poverty groups over changes the White House wanted in food-aid programs. U.S. food aid currently comes in the form of U.S.-produced food that U.S. transport companies ferry to developing

countries, where it is either handed out or sold in local markets by charities that use the proceeds to provide various kinds of assistance.

The White House pushed to turn a quarter of the American aid — about \$400 million annually — into cash to buy food in developing countries' own regional markets, a move that Bush and several charities, including CARE and Oxfam, say would provide more food more quickly and cost less by cutting transport times and costs.⁷¹

Congress' nonpartisan auditing agency, the Government Accountability Office (GAO), agreed. The amount of food actually delivered as U.S. aid actually dropped by 52 percent between 2002 and 2007 because transport and other associated costs rose, said the GAO.⁷²

But the Bush plan runs afoul of U.S. food producers and shippers. Accordingly, Congress approved only a small pilot program — totaling \$60 million over four years — to test overseas purchasing.⁷³

Gloria Tosi, a lobbyist for companies that transport American food aid, called even the tiny pilot program “a bad idea.”⁷⁴ ■

OUTLOOK

Environmental Concerns

The science of farming traditionally has focused on increasing harvests, but today concerns have shifted to making farming environmentally sustainable. The change was prompted by soaring prices for fossil fuels that power farm machinery and are used in fertilizer manufacturing, plus dawning awareness that soil and water resources are rapidly being depleted.

In the United States, “One thing we need to focus on is how reliant we are on a good natural-resource base” —

mainly soil and water — says the USDA's Hatfield. “Even with our productive yields we've still got spots in the heartland with really poor yields” due to erosion and depletion of soil nutrients, he says.

In India and Pakistan, farmers “are mining the groundwater deeper and deeper,” depleting future stores, says South Dakota State University's Dobbs.

Climate change is adding to the troubles. In China, Australia and Africa, deserts are encroaching on once-fertile lands, says Doyle at Central Michigan University. “Where the hell is all the food going to be grown?”

Transport of food in a globalized marketplace is “a huge issue with the price of diesel fuel as it is today” and oil supplies dwindling, says Virginia Tech's Alley, president-elect of the American Society of Agronomists.

Farmers must soon reevaluate many practices in light of environmental needs.

“About two years ago, I was in northwestern Iowa to talk about reducing tillage” — plowing fields less to reduce soil erosion and depletion, recalls Hatfield. “I asked, ‘What are you going to do when diesel fuel goes above \$3 a gallon?’ And they looked at me as if I were from Mars,” he says. But today, “Farmers are asking different questions, like ‘How do I reduce my tilling? How do I use manure?’” to replace fossil-fuel-based fertilizer.

The debate is heating up right now about the best means to maximize harvests in sub-Saharan Africa and other challenging environments, and industrial, fossil-fuel-based farming is not necessarily winning, says Dobbs. A large study by Great Britain's University of Essex found that “sustainable practices . . . led to a 96 percent increase in per-hectare food production,” showing that “there's potential for a lot of increased productivity without abandoning small-farm agriculture,” he says.

But others say that tough times may lead to increased acceptance of

high-tech methods, including so-called genetically modified foods — crop varieties created by gene manipulation in the biotechnology lab — of which many consumers are wary.⁷⁵

In Australia and New Zealand, for example, there was a great deal of resistance” to transgenic crops — which may someday be cheaper and drought-resistant — but as food prices go up, the opposition is starting to be muffled, says Doyle.

Food shortages and the resulting unrest “are not going to go away tomorrow by any stretch of the imagination,” says Johan Selle, an international risk-management expert, in Annapolis, Md.

“When a businessman is getting \$5 for a loaf of bread, he will not bring it down to \$2. We are going to see this for another five, six, seven years,” he says. “Unless someone — the U.S., the U.N., the World Trade Organization — takes the lead” to create a more stable system, “we're going to struggle for a long time.” ■

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