The Washington Post

Back to previous page

The global food crunch

By Robert J. Samuelson, Sunday, March 13, 7:50 PM

Here's a question about the Mideast turmoil for future historians: How much did food inflation contribute? We know some basic facts. Middle East countries import 50 percent or more of their wheat, a staple food for many. Beginning in mid-2010, world grain prices exploded. At $8.56 a bushel in February, wheat prices had doubled in eight months. Despite massive subsidies, some higher prices filtered through to consumers. Did that create a tinderbox for protest?

"In both Tunisia and Egypt, women in TV interviews screamed about food prices," says Laurie Garrett of the Council on Foreign Relations. "Food inflation was a contributor. How much we don't know." Whatever the verdict, it's not an idle curiosity. As much as oil, scarce food could shape global politics for decades.

Call it the Great Food Crunch. Global food demand is colliding with strained supply. High prices or shortages could destabilize poor countries and trigger global scrambles for scarce foodstuffs. The present price surge is the second in three years. In 2008, run-ups in rice and wheat triggered protests and riots in about two dozen countries, including Egypt, Haiti and the Philippines. Then and now, some suppliers (India and Vietnam in 2008 for rice and Russia now for wheat) restricted exports, increasing world prices and shifting risk to countries with food deficits.

Growing global affluence underlies the squeeze. As countries modernize, diets change. People shift from eating grains directly — as meal and bread — to consuming them indirectly as meat and dairy products. From 2000 to 2030, per capita meat consumption could rise 49 percent in China, 79 percent (albeit from a low base) in India and 22 percent in Brazil, estimates the International Food Policy Research Institute. This boosts grain demand for animal feed. For cattle, it takes about eight pounds of feed grain to gain a pound; for chickens, it's between two and four.

"We've had strong international demand, [despite] a major recession," says Joseph Glauber, the Agriculture Department's chief economist. "It's not unique to China." In seven out of the past 10 years, he notes, world wheat consumption has outpaced production. Global grain stocks, a buffer against shortages, have declined. Food markets remain vulnerable to any setbacks — floods, droughts — that reduce harvests. The diversion of U.S. corn to ethanol intensifies pressures on grain supplies.

All things considered, global food production may have to double by 2050, says agriculture economist Robert Thompson of the Chicago Council on Global Affairs. From 2010 to 2050, the world's population is projected to increase 38 percent, from 6.9 billion to 9.5 billion, with gains concentrated

in poorer countries. By some estimates, about 1 billion people are already so undernourished they can't do modest manual labor.

Can the world raise food production that much? Well-known environmentalist Lester Brown doubts it. Declining water tables, climate change and eroding topsoil limit the possibilities. Writing in Scientific American, he warned that pervasive food scarcities will lead to more failed states — nations unable to guarantee food security for their people — that become breeding grounds for global terrorism and epidemics. He cited Somalia's pirates as prototypes. By contrast, Thompson and other experts are less gloomy.

Astonishing technological advances are one reason, as the table below shows. It provides U.S. production of wheat and corn, measured as bushels per acre ("yield"), since 1900.

CORN WHEAT

Bushels Per Acre

1900 28 12

1950 38 17

1970 72 31

2010 153 46

Corn yields quintupled and wheat yields quadrupled. Improved seeds, more fertilizer, irrigation and better farming practices created huge gains.

Optimists argue that these will continue, driven heavily by biotechnology. It involves the insertion of specific genes into seeds that make crops more resistant to weeds, bugs and drought. In effect, they're smart seeds. "In about 10 years, we've gone from selling corn seed with one biotech trait to eight," says Robert Fraley, chief technology officer for Monsanto, a major seed producer. By 2030, Fraley thinks U.S. yields for corn, cotton and soybeans can roughly double. Biotech seeds are also spreading to Latin America, China and India.

The other reason for optimism is that agriculture in some parts of the world — sub-Saharan Africa, for one — lags so far behind state-of-the-art practices that there are immense opportunities for catch-up. Thompson says that the gap on corn yields between successful American farmers and their struggling African counterparts is sometimes 10 to 1.

The global food squeeze is a largely uncovered story. For now, high prices and short supplies have enriched American farmers, with exports and incomes soaring. But bad harvests this year could overwhelm tight markets and cause panic-buying. If nature and technology don't restore a better balance between supply and demand, the consequences for human suffering and political conflict could be fearsome.