

Earth Policy Institute

NEWS RELEASE

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WORLD ON THE EDGE When Will the Food Bubble Burst?

“Our early 21st century civilization is in trouble. We need not go beyond the world food economy to see this. Over the last few decades we have created a food production bubble—one based on environmental trends that cannot be sustained, including overpumping aquifers, overplowing land, and overloading the atmosphere with carbon dioxide,” notes Lester R. Brown, author of *World on the Edge: How to Prevent Environmental and Economic Collapse* (W. W. Norton & Company).

“If we cannot reverse these trends, economic decline is inevitable,” notes Brown, President of the Earth Policy Institute, a Washington, D.C.-based environmental research organization. “No civilization has survived the ongoing destruction of its natural support systems. Nor will ours.

“The archeological records of earlier civilizations indicate that more often than not it was food shortages that led to their downfall. Food appears to be the weak link for our global civilization as well. And unlike the recent U.S. housing bubble, the food bubble is global.”

“The question is not whether the food bubble will burst but when,” says Brown. While the U.S. housing bubble was created by the overextension of credit, the food bubble is based on the overuse of land and water resources. It is further threatened by the climate stresses deriving from the excessive burning of fossil fuels. When the U.S. housing bubble burst, it sent

shockwaves through the world economy, culminating in the worst recession since the Great Depression. When the food bubble bursts, food prices will soar worldwide, threatening economic and political stability everywhere. For those living on the lower rungs of the global economic ladder, survival itself could be at stake.

The danger signs are everywhere. In the summer of 2010, record high temperatures scorched Moscow from late June through mid-August. Western Russia was so hot and dry in early August that 300 to 400 new fires were starting every day.

"The average temperature in Moscow for July was a scarcely believable 14 degrees Fahrenheit above the norm. Watching the heat wave play out over the seven-week period on the TV evening news, with the thousands of fires and smoke everywhere, was like watching a horror film. Over 56,000 people died in the extreme heat. Russia's 140 million people were in shock, traumatized by what was happening to them and their country," says Brown in *World on the Edge*.

The record heat shrank Russia's grain harvest from roughly 100 million tons to 60 million tons. This 40-percent drop and the associated grain export ban helped drive world wheat prices up 60 percent in two months, raising bread prices worldwide.

Crop ecologists estimate that for each 1 degree Celsius rise in temperature above the norm during the growing season, grain yields decline by roughly 10 percent. In parts of Western Russia, the spring wheat crop was totally destroyed by the crop-withering heat and drought. As the earth's temperature rises, the likelihood of more numerous, more intense heat waves increases.

"How much time do we have before the food bubble bursts?" asks Brown. "No one knows. If we stay with business as usual, the time is more likely measured in years than in decades. We are now so close to the edge that politically destabilizing food price rises could come at any time."

For example, Brown notes that if the 2010 heat wave centered in Moscow had instead been centered in Chicago, it could easily have reduced the U.S. grain harvest of 400 million tons by 40 percent, or 160 million tons. World carryover stocks of grain for 2011—the amount remaining in the bin when the new harvest begins—would have dropped to an all-time low of 52 days of consumption, well below the 62-day carryover that set the stage for the tripling of world grain prices in 2007–08.

“In short,” Brown says, “if the July temperature in Chicago were to average 14 degrees above the norm, as it did in Moscow, there would be chaos in world grain markets.” Grain prices would quickly climb off the chart. Food prices would soar worldwide. Many grain-exporting countries, trying to hold down domestic food prices, would restrict or even ban exports, as they did in 2007–08.

Oil-exporting countries would try to barter oil for grain. Low-income grain importers would lose out. Instead of being dominated by scenes of smoke and fire in Moscow, the TV evening news would run live footage of food riots in low-income grain-importing countries and carry reports of spreading hunger, falling governments, and failing states. With governments collapsing and with confidence in the world grain market shattered, the global economy could start to unravel.

Rising temperatures are not the only threat to world food security. So too is the depletion of aquifers from overpumping for irrigation. In Saudi Arabia, grain production is collapsing as aquifer depletion has reduced its wheat harvest by two thirds in three years. It is not alone. The Middle East is the first geographic region where the grain harvest has started to shrink as aquifers are depleted and as irrigation wells go dry.

On a far larger scale, a World Bank study indicates that 175 million people in India are being fed with grain produced by overpumping. For China, the equivalent figure is 130 million people. Countries can overpump in the short run, but not over the long run.

And there are signs that a combination of trends, including aquifer depletion and the paving of millions of acres of cropland for new cars, is about to force China to import massive quantities of grain, much as it already does for soybeans. When this happens, China will necessarily turn to the United States, which is far and away the world's largest grain exporter. For American consumers, for whom food security has never been a major issue, the prospect of competing for the U.S. grain harvest with 1.4 billion Chinese consumers with fast-rising incomes is a nightmare scenario.

"The new reality," says Brown, "is that the world is only one poor harvest away from chaos. It is time to redefine security. The principal threats to our future are no longer armed aggression but instead climate change, population growth, water shortages, spreading hunger, and failing states. What we now need is a mobilization to reverse these trends on the scale and urgency of the U.S. mobilization for World War II. The challenge is to quickly reduce carbon emissions, stabilize population, and restore the economy's soils, aquifers, forests, and other natural support systems. This requires not only a redefining of security but a corresponding reallocation of fiscal resources from military budgets to budgets for climate stabilization, population stabilization, water conservation, and other new threats to security."

For decades, we environmentalists have talked about saving the planet. Now it is civilization itself that is at stake.

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World on the Edge: How to Prevent Environmental and Economic Collapse is available online for free downloading at www.earth-policy.org/books/wote.