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and Economic Collapse*, by Lester R. Brown
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II

THE CONSEQUENCES

The Emerging Politics of Food Scarcity

Between early 2007 and 2008, world wheat, rice, corn, and soybean prices climbed to roughly triple their historical levels. With food prices soaring, the social order in many countries began to break down. In several provinces in Thailand, rice rustlers stole grain by harvesting ripe fields during the night. In response, Thai villagers with distant rice fields took to guarding them at night with loaded shotguns.¹

In Sudan, the U.N. World Food Programme (WFP), the provider of grain for 2 million people in Darfur refugee camps, faced a difficult mission. During the first three months of 2008, some 56 grain-laden trucks were hijacked. The hunger relief effort itself broke down. In Pakistan, where flour prices had doubled, food security became a national concern. Thousands of armed Pakistani troops were assigned to guard grain elevators and trucks hauling wheat.²

As more and more people were trapped between low incomes and rising food prices, food riots became commonplace. In Egypt, soldiers were conscripted to bake bread. Bread lines at state-subsidized bakeries were often the scene of fights and sometimes deaths. In Morocco, 34 food rioters were jailed. In Yemen, food riots turned deadly, taking at least a dozen lives. In Cameroon, dozens

of people died in food riots and hundreds were arrested. Other countries where riots erupted include Ethiopia, Haiti, Indonesia, Mexico, the Philippines, and Senegal. Haiti was hit particularly hard. After a week of riots and violence, the prime minister was forced to step down.³

The tripling of world grain prices also sharply reduced food aid supplies, putting the dozens of countries dependent on the WFP's emergency food assistance at risk. In March 2008, the WFP issued an urgent appeal for \$500 million of additional funds. Even before the price hikes, the WFP estimated that 18,000 children were dying daily of hunger and related illnesses.⁴

The world has experienced several grain price surges over the last half-century, but none like the one in 2007–08. The earlier surges were event-driven—a monsoon failure in India, a severe drought in the Soviet Union, or a crop-shrinking heat wave in the U.S. Midwest. The price surges were temporary, caused by weather-related events that were typically remedied by the next harvest. The record 2007–08 surge in grain prices was different. It was driven by converging trends on both sides of the food-population equation—some long-standing, others more recent.⁵

Today there are three sources of growing demand for food: population growth; rising affluence and the associated jump in meat, milk, and egg consumption; and the use of grain to produce fuel for cars. Population growth is as old as agriculture itself. But the world is now adding close to 80 million people per year. Even worse, the overwhelming majority of these people are being added in countries where cropland is scarce, soils are eroding, and irrigation wells are going dry.⁶

Even as we are multiplying in number, some 3 billion of us are trying to move up the food chain, consuming more grain-intensive livestock products. As incomes rise, annual grain consumption per person climbs from less

than 400 pounds, as in India today, to roughly 1,600 pounds, as in the United States, where diets tend to be heavy with meat and dairy products.⁷

The third source of demand growth emerged when the United States attempted to reduce its oil insecurity by converting grain into ethanol. The jump in U.S. gasoline prices to \$3 per gallon that followed Hurricane Katrina in 2005 made it highly profitable to invest in ethanol distilleries in the United States. As a result, the growth in world grain demand, traditionally around 20 million tons per year, suddenly jumped to over 50 million tons in 2007 and again in 2008 as a huge fleet of new ethanol distilleries came online. This massive ethanol distillery investment in the United States launched an epic competition between cars and people for grain.⁸

The conversion of grain to automotive fuel has continued to climb. Roughly 119 million tons of the 2009 U.S. grain harvest of 416 million tons went to ethanol distilleries, an amount that exceeds the grain harvests of Canada and Australia combined.⁹

Even as these three sources of demand combined to drive up world consumption, speculators entered the fray. By buying grain futures and holding grain off the market, they further fueled the price rise.¹⁰

On the supply side of the food equation, several trends discussed in preceding chapters are making it more difficult to expand production rapidly enough to keep up with demand. These include soil erosion, aquifer depletion, more-frequent crop-shrinking heat waves, melting ice sheets, melting mountain glaciers, and the diversion of irrigation water to cities.

Farmers are also losing cropland to nonfarm uses. Cars compete with people not only for the grain supply but also for the cropland itself. The United States, for example, has paved an area for cars larger than the state of Georgia. Every five cars added to the U.S. fleet means

another acre of land will be paved over—the equivalent of a football field.¹¹

The implications for China of this relationship between cars and cropland are startling. In 2009, for the first time, more cars were sold in China than in the United States. If China were to reach the U.S. ownership rate of three cars for every four people, it would have over a billion cars, more than the entire world has today. The land that would have to be paved to accommodate these cars would be two thirds the area China currently has in rice.¹²

This pressure on cropland worldwide is running up against increased demand for soybeans, which are the key to expanding the production of meat, milk, and eggs. Adding soybean meal to livestock and poultry feed sharply boosts the efficiency with which grain is converted into animal protein. This is why world soybean use climbed from 17 million tons in 1950 to 252 million tons in 2010, a 15-fold jump.¹³

Nowhere is the soaring demand for soybeans more evident than in China, where the crop originated. As recently as 1995, China produced 14 million tons of soybeans and consumed 14 million tons. In 2010, it still produced 14 million tons, but it consumed a staggering 64 million tons. In fact, over half of the world's soybean exports now go to China.¹⁴

Demand is climbing, but since scientists have failed to increase yields rapidly, the world gets more soybeans largely by planting more soybeans. The soybean is devouring land in the United States, Brazil, and Argentina, which together account for four fifths of world soybean production and 90 percent of exports. The United States now has more land in soybeans than in wheat. In Brazil, there is more land in soybeans than in corn, wheat, and rice combined. Argentina's soybean area is now double that in all grains combined. It is a virtual

soybean monoculture. Soaring world demand for soybeans is thus driving deforestation in Brazil and the plowing of grasslands in Argentina.¹⁵

The trends generating food demand and restricting supply are converging to create a perfect storm in the world food economy, one that is generating a new politics of food scarcity. Faced with potential domestic political instability as food prices soared, beginning in late 2007 Russia and Argentina limited or banned exports of wheat in an attempt to check domestic food price rises. Viet Nam, the number two rice exporter, banned rice exports for several months. While these moves reassured people living in the exporting countries, they created panic in the scores of countries that import grain. Governments of importing countries suddenly realized that they could no longer rely on the world market for supplies.¹⁶

In response, some countries tried to nail down long-term bilateral trade agreements that would lock up future grain supplies. The Philippines, a leading rice importer, negotiated a three-year deal with Viet Nam for a guaranteed 1.5 million tons of rice each year. A delegation from Yemen traveled to Australia with the hope of negotiating a long-term wheat import deal. They failed. Other importing countries sought similar arrangements, but in a seller's market, few were successful.¹⁷

The loss of confidence among importing countries has led the more affluent ones to buy or lease large blocks of land in other countries on which to produce food for themselves. In the language of the diplomatic and investment communities, these are land acquisitions. In the language of the small farmers displaced from their land and the nongovernmental organizations (NGOs) that work with them, they are land grabs.¹⁸

As food supplies tighten, we are witnessing an unprecedented scramble for land that crosses national boundaries. Initially driven by food insecurity at the

national level, land acquisitions are now also seen as a lucrative investment opportunity. Fatou Mbaye of ActionAid in Senegal observes, “Land is quickly becoming the new gold and right now the rush is on.”¹⁹

Among the countries that are leading the charge to buy or lease land abroad are Saudi Arabia, South Korea, and China. Saudi Arabia, which is fast losing its irrigation water, will soon be totally dependent on imports or overseas projects for its grain. South Korea now imports over 70 percent of its grain. China, faced with aquifer depletion and the heavy loss of cropland to nonfarm uses, is nervous. Although essentially self-sufficient in grain for over a decade, in 2010 it started to import wheat from Australia, Kazakhstan, Canada, and the United States. It also imported U.S. corn.²⁰

India, though not an affluent country, has also become a major player in land acquisitions. With its irrigation wells starting to go dry and with growing climate instability, India too is worried about future food security. Among the other countries jumping in to buy land abroad are Egypt, Libya, Bahrain, Qatar, and the United Arab Emirates.²¹

The initial land acquisitions typically began as negotiations by governments concerned about food security. It was an interesting combination of diplomacy and business—with governments often negotiating side by side with corporations from their own countries, some formed precisely to produce food abroad. Once the negotiations are completed, the corporations usually take over. Over time, the land acquisitions have also become investment opportunities for agribusiness firms, investment banks, and sovereign wealth funds.²²

In Asia, the countries selling or leasing land include Indonesia, the Philippines, and Papua New Guinea. In Latin America, it is mostly Brazil, but also Argentina and Paraguay. In Africa, where land values are low compared

with those in Asia, Ethiopia, Sudan, and Mozambique are among the many countries recently targeted by investors. In Ethiopia, for example, an acre of land can be leased for less than \$1 per year, whereas in land-scarce Asia it could easily cost \$100 or more. For land acquisitions, Africa is the new frontier.²³

Thus the countries selling or leasing their land are often poor and, more often than not, those where hunger is chronic, such as Ethiopia and Sudan. In January 2009 the Saudis celebrated the arrival of the first shipment of rice produced on land they had acquired in Ethiopia, a country where the WFP is currently feeding 5 million people. And Sudan is the site of the WFP’s largest famine relief effort.²⁴

The purpose of land acquisition varies. For some, it is to produce food grains—rice and wheat. For others, it is to produce livestock and poultry feed, principally corn. A third factor driving land acquisitions is the demand for automotive fuel. The European Union’s goal of obtaining 10 percent of its transport energy from renewable sources by 2020 is encouraging land grabbers to produce biofuels for the European market.²⁵

For sheer size of acquisitions, China stands out. The Chinese reportedly picked up 7 million acres in the Democratic Republic of the Congo (DRC) to produce palm oil, which can be used for food or fuel. Compare that with the 3 million acres used in the DRC to produce corn, the leading grain consumed by its 68 million people. Like Ethiopia and Sudan, the DRC depends on a WFP lifeline. China is also negotiating for 5 million acres in Zambia to produce jatropha, an oilseed-bearing perennial. Other countries where China has acquired land or is planning to do so include Australia, Russia, Brazil, Kazakhstan, Myanmar, and Mozambique.²⁶

South Korea, a leading importer of corn and wheat, is a major land investor in several countries. With deals

signed for 1.7 million acres in Sudan for growing wheat, South Korea is a leader in this food security push. For perspective, this is not much smaller than the 2.3 million acres South Korea uses at home to produce rice, a crop in which it is self-sufficient. Saudi Arabia is acquiring land in Ethiopia, Sudan, Indonesia, and the Philippines, while India's early investments are concentrated in several African countries, although principally in Ethiopia.²⁷

One of the little noticed characteristics of land acquisitions is that they are also water acquisitions. Whether the land is irrigated or rain-fed, it represents a claim on the water resources in the host country. This means land acquisition agreements are an even more sensitive issue in water-stressed countries. Land acquisitions in Ethiopia, where most of the Nile's headwaters begin, or in Sudan, which taps water from the Nile downstream, may simply mean that Egypt will get less of the river's water—pushing its heavy dependence on imported grain even higher.²⁸

Another disturbing dimension of many land investments is that they are taking place in countries like Indonesia, Brazil, and the DRC where expanding cropland often means clearing tropical rainforests that sequester carbon. Land clearing here could markedly raise global carbon emissions, further increasing climate change's disruptive effect on food security.²⁹

Bilateral land acquisitions raise many questions. To begin with, these agreements are almost always negotiated in secret. Typically only a few high-ranking officials are involved and the terms are often kept confidential, even though they deal with land, a public resource. Not only are key stakeholders such as local farmers not at the negotiating table, they often do not even learn about the agreements until after the papers are signed. And since there is rarely productive land sitting idle in the countries where the land is being acquired, the agreements mean that many local farmers and herders will simply be dis-

placed. Their land may be confiscated or it may be bought from them at a price over which they have little say, leading to the public hostility that often arises in host countries.

In a landmark article on the African land grab in *The Observer*, John Vidal quotes an Ethiopian, Nyikaw Ochalla, from the Gambella region: "The foreign companies are arriving in large numbers, depriving people of land they have used for centuries. There is no consultation with the indigenous population. The deals are done secretly. The only thing the local people see is people coming with lots of tractors to invade their lands." Referring to his own village, where an Indian corporation is taking over, Ochalla says, "Their land has been compulsorily taken and they have been given no compensation. People cannot believe what is happening."³⁰

Hostility of local people to land grabs is the rule, not the exception. China, for example, signed an agreement with the Philippine government in 2007 to lease 2.5 million acres of land on which to produce crops that would be shipped home. Once word leaked out, the public outcry—much of it from Filipino farmers—forced the government to suspend the agreement. A similar situation developed in Madagascar, where a South Korean firm, Daewoo Logistics, had pursued rights to more than 3 million acres of land, an area half the size of Belgium. This helped stoke a political furor that led to a change in government and cancellation of the agreement.³¹

Investments by agribusiness firms and others to acquire land in low-income countries and to produce food exclusively for export are almost certainly going to leave people in these countries less well off. Many will be left landless. At the national level, there will be less land to produce food for local use.

If food prices are rising in the host country, will the investing country actually be able to remove the grain it

has produced on acquired land? Will the hungry people in these countries stand by and watch as grain is exported from land that was once theirs? Or will the investors have to hire security forces to ensure that the harvests can be shipped home? Those acquiring land in hungry countries are sowing what could become the seeds of conflict.

The central question associated with this massive effort by importing countries to acquire land abroad is this: How will it affect world food production and overall food security? In a September 2010 report, the World Bank used press reports to identify 464 land acquisitions that were in various stages of development between October 2008 and August 2009. The Bank claimed that production had begun on only one fifth of the announced projects, partly because many deals were made by land speculators. The report offered several other reasons for the slow start, including “unrealistic objectives, price changes, and inadequate infrastructure, technology, and institutions.”³²

The land area involved was clear for only 203 of these reported projects, yet it still came to some 115 million acres, an area comparable to the U.S. land in corn and wheat combined. These agreements imply an investment of at least \$50 billion. Particularly noteworthy is that of the 405 projects for which commodity information was available, 21 percent are slated to produce biofuels—and another 21 percent industrial or cash crops. Only 37 percent are slated to produce food crops.³³

How productive will the land be that actually ends up being farmed? Given the level of agricultural skills and technologies likely to be used, in most cases relatively high yields can be expected. In Africa, for example, simply applying fertilizer to its nutrient-depleted soils will often double grain yields. Taking everything into account, investors should be able to double or triple yields in much of Africa.³⁴

While there will undoubtedly be some spectacular production gains in some countries with some crops, there will also be occasional failures. Some projects will be abandoned because the economics simply do not work. Long-distance farming, with the transportation and travel involved, and at a time when oil prices are likely to be rising, can be very costly. There almost certainly will be unforeseen outbreaks of plant disease and insect infestations as new crops are introduced, particularly since so much land acquired is in tropical and subtropical regions.³⁵

Another uncertainty is the timing. As the Bank study indicates, all of this land will not automatically come into production within a year or two. Although the flurry of reports of large-scale land acquisitions began in 2008, as of 2010 there were only a few small harvests to point to. As noted, the Saudis harvested their first rice crop in Ethiopia in late 2008. In 2009, South Korea’s Hyundai Heavy Industries harvested some 4,500 tons of soybeans and 2,000 tons of corn on a 25,000-acre farm it took over from Russian owners, roughly 100 miles north of Vladivostok. Hyundai plans to expand this to 125,000 acres by 2012, and by 2015 it expects to produce 100,000 tons of soybeans and corn annually for the Korean market, less than 1 percent of South Korea’s consumption of these two commodities. And an Indian firm has started harvesting corn in Ethiopia.³⁶

The public infrastructure to support modern market-oriented agriculture does not yet exist in much of Africa. In some countries, it will take years to build the roads needed both to bring in agricultural inputs, such as fertilizer, and to export the farm products. Modern agriculture requires its own infrastructure—machine sheds, grain silos, fertilizer storage sheds, fuel storage facilities, and, in many situations, irrigation pumps and well-drilling equipment. Overall, land development to date

appears to be a slow, time-consuming process.

Even if some of these projects can dramatically boost land productivity, there is also the question of whether local people will benefit. If virtually all the inputs—the farm equipment, the fertilizer, the pesticides, the seeds—are brought in from abroad and if all the output is shipped out of the country, it will not contribute to the local economy or the local food supply. At best, people from local communities may get work as farm laborers, but in highly mechanized operations, jobs will be few. At worst, countries will be left with less land and water with which to feed their already hungry populations.

One of the most difficult variables to evaluate is political stability. Once opposition political parties are in office, they may cancel the agreements, arguing that they were secretly negotiated without public participation or support. Land acquisitions in the DRC and Sudan, both among the top five failing states, are particularly risky. Few things are more likely to fuel insurgencies than taking land away from people. Agricultural equipment is easily sabotaged. If ripe fields of grain are torched, they burn quickly.³⁷

The World Bank, working with the U.N. Food and Agriculture Organization and other related agencies, has formulated a set of principles governing land acquisitions. These guiding principles are well conceived, but there is no mechanism to enforce them. The Bank does not seem eager to challenge the basic argument of those acquiring land, namely that it will benefit those who live in the host countries.³⁸

But the land acquisitions are being fundamentally challenged by a coalition of more than 100 NGOs, some national and others international. These groups argue that what the world needs is not large corporations bringing large-scale, highly mechanized, capital-intensive agriculture into these countries, but international support for

community-based farming, centered around labor-intensive family farms that produce for local and regional markets and that create desperately needed jobs.³⁹

As land and water become scarce, as the earth's temperature rises, and as world food security deteriorates, a dangerous geopolitics of food scarcity is emerging. The conditions giving rise to this have been in the making for several decades, but the situation has come into sharp focus only in the last few years. Land grabbing is an integral part of a global power struggle for food security. Not only is it designed to benefit the rich, it will likely do so at the expense of the poor.

Data, endnotes, and additional resources can be found on Earth Policy's Web site, at www.earth-policy.org.