

“Chapter 1: Introduction”
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Eating Tomorrow

AGRIBUSINESS, FAMILY
FARMERS, AND THE BATTLE
FOR THE FUTURE OF FOOD

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Introduction

In Mozambique's lovely capital city of Maputo, the afternoon temperature had just hit 104 degrees Fahrenheit. Maputo is in the tropics, but this was October 2017, its springtime, and no one could remember a hotter October day. Inside the air-conditioned Radisson Blu Hotel on the city's waterfront, African government representatives and international experts gathered for the African Union's annual agricultural research conference. Organized by the Washington-based International Food Policy Research Institute, these conferences have monitored and supported African governments' ambitious commitments since 2006 to invest in agricultural development. Well-dressed participants sipped bottled water and took on the theme for this year's conference: "Climate-Smart Agriculture."

The day before, I'd been with farmers in Marracuene, just forty-five minutes up the coast from Maputo. They weren't embracing the experts' climate-smart initiatives but rather defending themselves from them. They wanted no part of synthetic fertilizer, which was labeled climate-smart even though it came from fossil fuels. Small-scale family farmers often referred to such practices, and the "technology package" of which they were a part, as "climate-stupid agriculture."

In Southern Africa, there is nothing abstract about climate change. In the unseasonable spring heat, the women of Marracuene told me

of the climate roller coaster they had been riding the last few years. They had seen their rainy seasons turn erratic and undependable, shortening the growing season. They'd seen unusually frequent and intense storms bring floods through their well-tended fields, washing away seeds, crops, and topsoil. They had suffered two consecutive years of drought, worsening the cyclical El Niño weather pattern that wreaks havoc with farmers. In those droughts, they had sweltered in heat waves they said were unprecedented, with temperatures climbing out of the nineties to 100 degrees Fahrenheit, then 106. In 2017, the thermometer hit 110 and crops baked to a crisp in the parched fields. Blessed with irrigation that allows them a second crop in the dry season, they had even seen that backfire on them. In the 2015 drought, the Incomati River, which fills their irrigation ditches with water, saw water levels so low that the Indian Ocean, four miles downriver and swollen with rising sea levels, flowed back up the dried riverbed. Irrigation canals in parts of the region filled with salt water, destroying crops and land.

The women who lead Marracuene's 7,000-member farmer associations seemed undaunted. They had their own climate adaptation strategies, and those did not involve using more fossil fuels or growing monocultures of commercial seeds. They had improved their own preferred vitamin-rich, drought-tolerant maize variety. They had created seed banks that saved the day when climate calamities wiped out many farmers' maize and with it the next year's seeds. Their steady intercropping, with diverse food crops growing within the same field, was improving their soils as it fed their families, with drought-tolerant crops—cassava, cowpeas, sweet potatoes, okra—preventing a food crisis when the maize crop failed. Their rich soil now retained moisture when rains were poor and better absorbed the downpours. These farm families were eating today, despite the damaging climate, and they were steadily improving their chances of eating tomorrow by enriching rather than depleting the resource base that gives them their sustenance.

They were getting no significant help from their government or from the international agencies gathered in the Radisson Blu



Marracuene, Mozambique: Climate change has devastated Southern Africa, leaving farmers desperate for resilient farming methods. *Timothy A. Wise*

air-conditioning to address global warming. Neither were family farmers in other parts of Africa. Instead, they were being pressured to abandon their native seeds in favor of commercial varieties or, worse still, genetically modified seeds; to give up the crop diversity that provides them diet diversity in favor of intensified monocultures of maize or other cereal crops; and to shortcut their patient soil-building practices, substituting expensive, fossil-fuel-based fertilizer for their own homemade compost. Family farmers in the developing world know they will never grow crops like farmers do in Iowa, and mostly they don't want to. But that is the path that

their governments and the Western donors and philanthropists who back them are insisting poor farmers follow.

Going from Marracuene's farmers to the policy-maker conference in the Radisson Blu, I saw the kind of disconnect I'd seen repeatedly in the ten years since food prices spiked, food riots broke out in many developing countries, and African leaders decided they needed to grow more of their own food.

Most of the climate-smart initiatives being hailed at the conference as "win-win" solutions, I realized, had only one consistent winner: agribusiness, the conglomerates that dominate the production of seeds, fertilizers, and other farm inputs. There, as elsewhere in the various halls of power, farmer initiatives that grew more food while reducing dependence on multinational agribusiness were marginalized in favor of business-friendly programs that boosted corporations' profits, increased corporate control of our food systems, and deepened farmers' dependence while undermining the very resource base on which they—and the hungry world—depend for food.

That is why I decided to write this book. I needed to understand why our leaders, after the wake-up call of a global food crisis, remained so blindly committed to business-as-usual policies that ignored the affordable solutions all around them. These solutions could help hungry farmers eat today while giving them the natural and financial resources that could allow them—and all of us—to eat tomorrow.

Business, as Usual

As I saw in four years of research, governments kept following business-as-usual policies because they were designed to support agribusiness, as usual. Agribusiness ran the show. Agribusinesses mostly don't farm, but they make a great deal of money off of agriculture. They produce inputs like fertilizer, seeds, pesticides, and tractors. On the output side, you have traders that store grain and ship it and other farm products within and between countries,

and processing companies that take what comes out of the ground and turn it into food and other products—the slaughterhouses, yogurt companies, sugar and corn sweetener factories, breakfast cereal companies, ethanol refineries, cotton ginners. At a global scale, and in many African countries, the dominant agribusiness players are household names: Monsanto, DuPont, Syngenta, John Deere, Yara (fertilizers), Cargill, Archer Daniels Midland, Tyson, Smithfield, Nestlé, Kellogg's. In many cases, these companies' revenues exceed the gross domestic products of the countries in which they operate.

Farmers, meanwhile, assume all the risks that go with growing food and other agricultural products, but they receive a declining share of the rewards. They are squeezed between input-suppliers who sell them ever-more-costly goods and traders and processors who use their market power to bid down the prices farmers can get for their crops. The share of consumers' food dollar going to farmers has been steadily declining for decades. In the United States, the farmer share fell 25 percent between 1993 and 2016, leaving farmers with just 15 percent of the consumer food dollar.¹ Who is getting the rest of that food dollar? Retailers like Walmart, food processors like Archer Daniels Midland, meat companies like Tyson, grain traders like Cargill, seed companies like Monsanto.

Agribusiness companies have such a powerful hold in the United States that they have convinced policy-makers and the general public—and even many farmers—that their interests are completely aligned with those of farmers. Nothing could be further from the truth, despite claims to the contrary by the self-proclaimed “farm lobby.” Farmers want low costs and high prices. Agribusinesses want maximum production to maximize input sales and low farm prices to reduce the costs of processors' raw materials. Conveniently enough for agribusiness, maximum production tends to result in low farm prices. Ever-concentrating monopoly power up and down the food chain gives global agribusinesses inordinate power to dictate the terms of trade, the high prices farmers must pay for their inputs and the low prices they can get for their crops.

Their economic power translates into political power, where they dictate national and global policies. That did not change when food prices spiked in 2008, though many of us hoped it would. The so-called food crisis was sparked not by scarcity but largely by the massive diversion of food and land into biofuel production and the sudden surge of speculative capital into a destabilizing new array of commodity-based investment vehicles. The ensuing food riots delivered a wake-up call to international leaders. The number of chronically malnourished surged past 1 billion. With climate change looming and a population of 9.7 billion projected by 2050, leaders called for massive investments to increase food production.² For the first time in years, government officials in developing countries realized the perils of relying on cheap imported food. They asked the question many of their own farmers had been asking for years: How can we grow more of our own food?

Soon an expert consensus emerged within international agencies like the UN Food and Agriculture Organization (FAO). Developing countries should grow more of their own food, and to do so they should turn to the farmers who already grew most of the food—small-scale producers. Suddenly, those farmers were not the problem, the “backward” peasants dragging down national development, they were a key part of the solution. And not just to hunger but to climate change. Their low-input methods contributed little in the way of greenhouse gases to the atmosphere compared to industrial agriculture and allowed them to adapt more effectively to the rapidly changing climate.

Plenty of research backed the new consensus. It largely demonstrated the obvious. The largest productivity improvements could be made among small-scale farmers, precisely because they had received very little investment or technical support in the preceding decades. With so many farmers producing at levels so far below their potential, relatively small investments could produce large gains. Because most farmers produced basic food crops, those productivity improvements would first address hunger in the farming families themselves. Once farmers began producing more than

their families needed, they would enter the market and a virtuous cycle of economic development would emerge, with the most successful farmers becoming commercial growers as rising incomes generated demand for new goods.³

This felt like a revelation to many, but it was, in fact, nothing more than the rediscovery of traditional agricultural development theory. That theory was needed now more than ever, given the urgency of reducing the environmental costs of industrial farming. The world loses 25 million acres of cropland each year as some 80 percent of agricultural land suffers from moderate-to-severe erosion. Overuse of synthetic fertilizer on monocropped agricultural lands is causing acidification, reducing organic matter and soil microbial diversity. Half or more is not taken up by crops, with much of it ending up in waterways or groundwater. Much of the excess is emitted as nitrous oxide, one of the most damaging of greenhouse gases. Overuse of insecticides and herbicides is leaving the soil lifeless; broadcast spraying of herbicides on herbicide-tolerant genetically modified crops is undermining the diversity of surrounding ecosystems and breeding “superweeds” resistant to treatment. Nearly 70 percent of the fresh water humans use is for irrigation, with intensive meat and commodity crop production draining aquifers at unsustainable rates.⁴ While many warn that the spread of meat-based diets in developing countries will prove unsustainable, the truth is that overproduction and overconsumption of meat and dairy products in more developed countries is the real environmental threat. According to one recent report, the top twenty global livestock conglomerates together emit more greenhouse gases than Germany, Canada, Australia, the United Kingdom, or France.⁵ Any future-oriented response to the food crisis would need to reverse these resource-consuming trends.

Agribusiness pretty quickly hijacked the food crisis response. To do so, they called on an old friend, eighteenth-century philosopher Thomas Malthus, who had warned that soaring populations, which grow exponentially, would overrun the resources needed to put food in all those hungry mouths. Monsanto’s Robert Fraley fed the fears of scarcity, warning that food production must double

by 2050, and that only technology such as his company's seeds and chemicals can feed the hordes. Leaders at the FAO amplified the neo-Malthusian alarms, echoing the agribusiness claim that we needed to double food production.

Never mind that the FAO's own researchers had shown no such cause for concern.⁶ The data showed clearly that global population had not been growing at an exponential rate for decades.⁷ Frances Moore Lappé's wise words, that hunger is not caused by a lack of food, were as true in 2008 as they were when she published *Diet for a Small Planet* nearly fifty years ago. Estimates show that today's production could feed 10 billion.⁸ Scarcity was still a myth, but a convenient one for agribusiness. In the panic, they could open more markets for their seeds, chemicals, and machinery. After all, how else will we feed a hungry world?

The myth that "we" feed "the world" is the ultimate first-world conceit.⁹ The world is mainly fed by hundreds of millions of small-scale farmers who grow 70 percent of developing countries' food. The crops grown in the United States, by farmers like the ones I met in Iowa, feed pigs, chickens, and our cars (with corn ethanol), with some left over to feed China's and Mexico's pigs and, indirectly, their middle classes. Moreover, there is no abstract "world" out there needing to be fed. There are about 1 billion hungry people, nearly all in developing countries. Paradoxically, and unconscionably, the majority of the hungry are some of those same small-scale farmers.¹⁰ The others are underemployed workers, including many farmworkers, who need decent jobs to earn enough to feed their families.¹¹

Increasing the industrial production of agricultural commodities does almost nothing for the hungry. It may lower urban food prices slightly, if agribusiness monopolies actually pass the savings on to consumers. But within developing countries capital-intensive farming reduces employment in rural areas, which increases migration to urban centers and reduces wages for low-skill workers. For hungry farmers, those commodities that "we" export to "feed the world" can even make them hungrier, as cheap imports undercut local food producers.¹²

Eating Tomorrow

Everywhere I traveled in researching this book, agribusiness interests were being aggressively promoted, to the detriment of family farmers, the environment, and the food and nutritional security of the world's poor. I went to Mexico, where I'd done research for years. There, the North American Free Trade Agreement had been the vehicle to expose small-scale farmers to a flood of low-priced imports that had devastated rural communities and left Mexico heavily dependent on food imports, even for its staple crop, maize. Now, Monsanto and other biotechnology companies were trying to open the country to genetically modified maize seeds despite the risks of cross-pollination with the country's rich diversity of native maize varieties.

Meanwhile, the U.S. government was using outdated World Trade Organization rules to challenge India's ambitious National Food Security Act, an unprecedented effort to provide basic food rations to some 800 million poor Indians in the world's hungriest country. The claim, from a U.S. government known for subsidizing its farmers, was that India was procuring those food rations from farmers at an above-market price, which constituted an unfair agricultural subsidy. Galled by the hypocrisy, I traveled to India to better understand the controversial program, which seemed to be working effectively, much like the early U.S. agricultural policies from the Great Depression on which India's policies were modeled.

To understand the roots of this maladaptive model I went to Iowa, blanketed in genetically modified corn and soybeans, dotted with industrial hog factories and ethanol refineries. In 2013, the Des Moines-based World Food Prize was awarded to three biotechnology scientists, one from Monsanto. Coincidentally, the company had just donated a sizeable sum to help refurbish the grand World Food Prize Hall of Laureates on the banks of the Des Moines River, a conflict of interest so commonplace in the agribusiness-dominated U.S. heartland that it barely stirred a complaint. Meanwhile, the Des Moines water supply had nearly been shut down when nitrate levels in the river from fertilizer runoff

upstream hit unsafe levels. Why was this the model for global agriculture in the wake of the food crisis?

And why was it being exported to Africa? The continent is certainly the area in greatest need of agricultural development; most national economies are heavily dependent on farming, and productivity remains low. The global food crisis focused welcome attention on Africa, supporting national governments in efforts already under way to raise crop yields and promote rural development. But agribusiness had largely hijacked those reform efforts as well via the Gates Foundation–inspired Alliance for a Green Revolution in Africa, with its narrow but well-financed marketing of commercial seeds and chemical fertilizers. I traveled extensively in Southern Africa, an area heavily dependent on corn production for livelihoods and nutrition, documenting the consistent failures of this agribusiness-driven approach.

How had we gone so terribly wrong? Why were leaders so blind to the limitations of this model? How could policy-makers at the Maputo conference on climate change and agriculture focus so narrowly on industrial-scale practices? How could they not see the real solutions that were all around them?

Farmers mostly weren't granted entrance to the air-conditioned gathering in the Radisson Blu. I didn't have to go far to find them. I walked ten minutes up the globally warmed street to the modest Kaya Kwanga conference center. There, over the din of giant fans blowing hot air, peasant farmers lectured a representative from the Mozambican government about why they did not want foreign-financed industrial agriculture, which they denounced as "land-grabbing." They wanted secure land rights and government support to help them grow more food in the country's relentlessly changing climate. They didn't want climate-smart agriculture, they wanted more sustainable and resilient farms, the kinds of low-input practices that could restore rather than deplete the fertility of their land. In a country with more than half of rural residents in poverty, they wanted to eat today. And they wanted to restore their soil so they could eat tomorrow.