



Globalization and Organic Food Systems

When Christopher Columbus discovered America, it is said he was disappointed, for the place he was really seeking was this, the coast of Malabar, India's fabled spice coast, linked by intricate waterways to a hinterland of unimaginable riches. The Romans and Phoenicians, the Arabs, Chinese, and Europeans all came here in search of ivory, silks, and gold. But most of all, they came for the spices of India: cardamom, ginger, cinnamon, and black pepper—or black gold.—Narration from an Indian Ministry of Tourism *Incredible India* video

IN THE SOUTH OF India is a land of coconuts—Kerala, as it is called in Malayalam, the local language. Several sizes and varieties of coconut trees fill every possible corner, swaying behind train stations in groves and along city streets, lining the sides of every canal and waterway, and ranging from the Malabar Coast to high into the foggy mountain ranges of the Western Ghats. When you look down from rooftops or out of the window of an airplane, everything is green—a verdant landscape extending to the horizon.

Kerala has enchanted travelers for centuries with its natural resources and geography. Marco Polo sought its spices, and colonial empires fought for control of its teak forests and medicinal plants. Today, the southwestern Indian state is the “torchbearer” of the Government of India's *Incredible India*, a marketing campaign designed by the Indian Ministry of Tourism.¹ Images of Kerala's greenery, from its rolling hills of spice

gardens to its coasts lined with coconut palms, dominate promotional posters and videos for India.

“Don’t be fooled,” warned Sugathakumari, an environmental activist born and raised in Kerala. “You can’t even drink our coconut water without getting sick.” She did not see a mythical landscape of spices and coconut palms. Instead, when she looked at the state’s landscape, she saw monocrops of pineapples, rubber, and other cash crops, all regularly sprayed with the pesticides furadan and endosulfan, two poisonous chemicals leaching into the watersheds.² Promotional images of the state for travel and tourism belied how its greenery was produced.

It was the year 2010. The Kerala Forest Research Institute had just released a study documenting that the fingernails of pineapple pickers in Kerala were falling off after they had been exposed to an unknown cocktail of chemical pesticides. This was not an unusual story, Sugathakumari emphasized to an audience gathered for the 2010 Indian Biodiversity Conference in the capital of Kerala, Thiruvananthapuram. She reminded the crowd that, earlier in that same decade, several children in a northern agricultural district of the state had been born with severe physical deformities after their parents had been exposed to endosulfan, a harmful chemical classified as a persistent organic pollutant by the scientific community, because of its ability to linger in the environment for years. For over a quarter of a century, these agrarian communities had been repeatedly sprayed aerially with the chemical to control pests on nearby cashew plantations. Kerala had become a toxic place: its lush greenery was now drenched in poisonous pesticides, bad for human health and the environment.

Sugathakumari was one of the keynote speakers at the 2010 conference, which had attracted environmentalists, students, government officials, and farmers from throughout the state to share research and news about environmental issues. While conversations and panel discussions were often somber, in response to recent news stories about pesticide poisonings and agriculture’s threats to biodiversity, another news item cheered up the gathered people and dominated the speeches: Kerala’s recently issued organic farming policy. Internationally renowned environmental activist Vandana Shiva was so impressed with the state’s policy that she spoke of it at length at the closing ceremony. “Kerala is and can be a

model,” she insisted, suggesting that the state could be a “torchbearer” again, this time in the organic farming sector. Shiva continued: “The world needs more models.”

THE POLICY THAT so delighted the people at the conference on biodiversity was an official plan put forth by Kerala’s government leaders to convert the entire state to organic farming within ten years.³ State officials claimed that organic agriculture—farming with limited use of synthetic inputs such as chemical fertilizers and pesticides—could be the solution to the innumerable agrarian problems the state was facing, from farmer suicides to poisoning by pesticides such as endosulfan. The policy’s announcement signaled a momentous political step and indicated that an ever-increasing amount of land in India was being set aside solely for organic production. While Kerala is geographically one of the smallest states in India, its 2010 policy initiative is the equivalent of designating an area greater than the size of Maryland as an organic zone.⁴ Over thirty million people living in the area would be covered.

Estimates as of 2013 suggest that over fifteen thousand farmers in Kerala are already or in the process of being certified organic for export to the United States and Europe; that is, they meet the legal standards that define organic farming on a national level, as determined by a third-party certifier.⁵ According to the International Federation of Organic Agriculture Movements (IFOAM), a nonprofit umbrella organization promoting sustainable agriculture globally, certified organic products are “those which have been produced, stored, processed, handled and marketed in accordance with precise technical specifications (standards) and certified as ‘organic’ by a certification body.”⁶ In India, these technical specifications are called the National Standards for Organic Production (NSOP), which are set by the Agriculture and Food Products Export Development Authority (APEDA) of the Ministry of Commerce.⁷ APEDA has accredited twenty-four institutions in India to carry out organic certification, many of which are located outside of the country.⁸ The first indigenous organic certification body in India, Indocert (Indian Organic Certification Agency), is based in Kerala, indicative of the leadership role Kerala is playing in South India’s organic farming movement.

Throughout the rest of India, organic agriculture is also growing. Between 2003 and 2010, the area under certified organic agriculture grew by almost 2,500 percent, totaling more than four thousand square miles.⁹ While this area represents less than 1 percent of India's cultivable land area, over half a million organic farmers live in the country, the highest number of organic producers of any country in the world.¹⁰ For the sake of comparison, the rate of growth for the area under certified organic production in the United States was just 12 percent between 2008 and 2011.¹¹

Twelve Indian states are currently either discussing or have organic farming policies in place.¹² As part of its Tenth Five Year Plan, the national government earmarked millions of dollars for the promotion of organic agriculture throughout the country and has allocated funds for organic farming ever since.¹³ Several states are setting up research and training institutions to assist farmers with organic methods of growing food. Non-governmental organizations, foundations, and development institutions are financing the rollout of organic farming in many villages.¹⁴ Furthermore, India's growing middle class and urban populations increasingly express interest in purchasing organic produce. Some estimates suggest that organic retail within the country may even be growing at a rate of 100 percent per year.¹⁵

Indian organic farmers also rely on foreign markets, having sold over \$100 million dollars' worth of organic goods such as rice, spices, and fruit to Europe, the United States, and other countries in 2009.¹⁶ Market estimates forecast this amount doubling by 2014, if not earlier.¹⁷ Today one can find organic Indian products such as vanilla, black pepper, and tea in the aisles of many American and European supermarkets. Many of these food items hail from Kerala.

Globally, organic food sales are around \$60 billion and growing, in spite of the economic downturn.¹⁸ More and more land is being converted to organic farming, now totaling 37.2 million hectares worldwide.¹⁹ Big-box retailers like Walmart have even begun to supply organic products for their shoppers, and the United States now represents the largest market for organic goods (worth almost \$30 billion), with Europe close behind.²⁰ This rising demand means that organic foods are often in short supply,

spurring the growth of organic exports from developing countries like India.²¹

Alongside the rapid global growth in the organic food market and exports, however, have come cautionary and sometimes farcical tales. Recent editorials have called organic food elitist because of its high prices and limited availability, headlines have suggested that organic produce from China is contaminated with chemical pesticides and fertilizers, and scholarly research has documented labor abuses occurring on large organic farms in California.²² Some activists have even claimed that the food miles of organic food can be “catastrophic” and have suggested that imported organic products be denied organic certification.²³ It is no wonder that, as several popular books have claimed, consumers are regularly confused about what to purchase at the grocery store.²⁴ My own research in England revealed widespread consumer disdain and confusion around organic products from the developing world.

Yet, as a result of the growing market for organic foodstuffs, as well as the premium prices that such products can fetch, Kerala’s organic farming initiatives could be considered a wise economic move that may bring greater income and development benefits to farmers. On the other hand, the state’s new policy could be considered risky and shortsighted. Current trends in the organic sector lead to the following questions: Are Kerala’s farmers venturing into a fickle international market? Are they avoiding the pitfalls of organic agriculture—the elitism, the chemical contamination, and the labor abuses? Are they able to make meaningful connections with consumers who may be located in other countries? Two issues are intertwined here: organic food and the globalization of our food system.

BROADLY, PEOPLE have three basic criticisms regarding organic food systems.

The first critique is that organic food offers limited nutritional benefits, even though it costs a lot more at the grocery store than conventionally grown food. The former issue gained traction with the release of a 2012 Stanford University School of Medicine paper entitled “Are Organic

Foods Safer or Healthier Than Conventional Alternatives?” After reviewing over two hundred English-language studies of nutrient and contaminant levels in organic foods from January 1966 to May 2011, the authors concluded that “the published literature lacks strong evidence that organic foods are significantly more nutritious than conventional foods.”²⁵ Subsequently, social media and news outlets buzzed with discussions about the benefits and drawbacks of organic food consumption. A *New York Times* article ran with the headline “Stanford Scientists Cast Doubt on Advantages of Organic Meat and Produce.”²⁶ National Public Radio aired a segment titled “When It Comes to Buying Organic, Science and Beliefs Don’t Always Mesh.”²⁷ Roger Cohen, an Op-Ed columnist for the *New York Times*, welcomed the Stanford study, calling organic food elitist and equating it with “paying to send your child to private school.”²⁸ Web commentary for these and similar media included statements by consumers who no longer wished to buy organic food.

There are several reasons why organic food is usually more expensive than its conventional counterparts in a grocery store. One is that the limited supply of organic foods can drive their price up. Furthermore, the cost of organic production can often be higher, given factors such as the increased reliance by farmers on manual weeding by laborers (as opposed to relying on chemical pesticides that can be applied fewer times with lower labor costs). Price premiums vary, though, depending on the season, crop, and marketing venue. Sometimes organic and nonorganic foods actually cost the same. Nevertheless, the higher price of organic food is an oft-cited reason that consumers shy away from purchasing organic products.²⁹ As for the nutrition aspect of this argument, there are contradictory studies about the nutritional profile of organic foods. Even the controversial Stanford study pointed out that organic products were likely to have fewer chemical residues—many of which can be linked to negative health effects.³⁰

The second criticism frequently leveled at organic agriculture is that it cannot feed the current population of over seven billion people. This claim is based on the fact that yields can indeed be lower in organic agriculture, especially during the conversion period from industrial to organic farming. Typically, the pesticides and synthetic fertilizers used in

industrial agriculture strip soils of beneficial microorganisms and nutrients. As a result, soils take several years to recover from the “shock” of chemical input withdrawal. Microorganisms return only slowly, and consequently the land does not produce as much food during this transition.

In today’s world, when industrial agriculture continues to be dominant and the organic market small, the Food and Agriculture Organization (FAO) estimates that nearly nine hundred million people, mostly in developing countries like India, are undernourished.³¹ The existence of nearly one billion undernourished people and the initial lower yields of organic farming have led several scientists to denounce organic farming as a viable agricultural method. Some, like those in a 2012 article in *Nature*, argue that to compensate for yield loss under organic farming, more and more land would have to be dedicated to agriculture, which would only enlarge agriculture’s environmental footprint as it encroaches into areas of high biodiversity, like forests. Furthermore, land is a limited resource, increasingly needed around urban areas as they expand.³² “Organic farming is rarely enough,” ran another recent headline in *Nature*.³³

The other element in this argument against organic turns on population growth. Often, fears that population growth will lead to food shortages evoke the eighteenth-century scholar Thomas Malthus’s vision of an overpopulated world, filled with misery and vice, with not enough food to go around. Malthus argued that because population grows at a faster rate than food resources, food shortages are inevitable. Malthusian thought exerts a strong influence on environmental circles and in the scientific community, contributing to a fixation on yields as the utmost priority in agriculture.³⁴

While there is no scientific consensus on the relationship between yields and organic agriculture, claims that global grain yields are already decreasing, thereby threatening the food supply, have bolstered skepticism around organic food. A 2012 *Economist* article, for instance, insisted that consumers need to support the large-scale companies that have historically developed and promoted the use of chemicals in agriculture, to counter yield declines and combat hunger in a world of seven billion people.³⁵

The third broad charge against organic agriculture has to do with its

scale and long-term trajectory: some believe that it has come to be very much like globalized industrial agriculture. This perspective emerged in the 1990s, when scholars began to examine the political economy of organic production, with a focus on California. The authors of one seminal 1997 study concluded that “despite . . . countervailing tendencies, organic agriculture is beginning to resemble conventional agriculture.”³⁶ Specifically, the authors found that organic farmers were beginning to adopt more intensive and possibly unsustainable agricultural practices such as monocropping, so as to remain competitive in the marketplace and to minimize economic losses. These farmers were also relying more and more on large agribusiness for investment capital and employing undocumented workers or paying lower than living wages for laborers. Rather than solving the ills of industrial agriculture, the critics argued, organic agriculture in California was instead maintaining and perpetuating the status quo of an economic system that exploits nature and workers.³⁷

Similarly, others point out that as the organic movement grows, corporations are becoming increasingly interested in obtaining a share of the organic market. Corporate involvement has led to a watering down of organic standards in the pursuit of profit.³⁸ Food activist Raj Patel and journalist Michael Pollan have called this phenomenon “organic-industrial” farming.³⁹ Others highlight the fact that organic standards and production constrain and produce tensions for organic producers and their communities in the developing world when they grow for export markets. For example, illiterate farmers have found that organic certification requires extensive and written farm-level records that are burdensome and time consuming to create. Some communities have also found the certification process to be cost prohibitive and therefore inaccessible for poorer farmers.⁴⁰ Another scholar even went so far as to call organic certification a form of “neocolonialism,” the reassertion of the power of former colonial powers over their former colonies, as producers in the developing world come to rely on export markets for their livelihoods.⁴¹

On a larger scale, many claim that neoliberalism—the economic liberalization of the world’s national economies since the 1970s—is exacerbating these trends toward inequality and corporate control of organic agriculture.⁴² Organic farming is increasingly top down and subject to the

whims of the free market, suggest these critics. Many of the original proponents of organic farming now argue that globalized organic agriculture has strayed far from their original social vision of organic agriculture as more democratic, small scale, and an alternative to globalized industrial agriculture. Globalization thus appears to be a foe to organic farming.

ALTHOUGH ALL of these critics raise important questions about the feasibility and sustainability of organic agriculture, it remains a distinct improvement over industrial agriculture. To understand why, we need to look at the way our current food system works—and the ways that it doesn't.

Industrial agriculture is fossil-fuel and energy intensive, highly dependent on artificial inputs of fertilizers and pesticides. Farmers rely on machinery and grow monocultures on large plots of land; livestock operations are concentrated; and much of the labor is low wage. In countries like the United States, some farm laborers are undocumented workers who are paid meager wages and have no guarantee of job security or benefits. One of the main goals of such agriculture is to produce high yields, ideally for greater profits. The scholar Michael Bell has deemed this “monologic,” that “cheap food is all we should ask of agriculture.”⁴³

Unfortunately, profit margins tend to be thin in industrial agriculture, as unpredictable weather can destroy crops, and since unpredictable global markets and free trade agreements can depress commodity prices. Boom-and-bust cycles are the norm. As such, farmers are constantly under pressure to extract profits where they can, whether through cheaper labor or by cramming livestock into smaller and smaller areas. The intensification of farm operations has increased nutrient waste runoff into watersheds, led to inhumane practices toward farm workers and animals, and prompted many families to leave agriculture. Corporate entities now control larger shares of agricultural operations around the world.

Industrial agriculture mushroomed in the mid-twentieth century, due to factors such as the increase in plant biotechnology research at universities, the overproduction of (and subsequent need to consume) chemicals resulting from the discovery of nitrogen-based explosives and biological warfare around World War II, and the greater pressure on farmers

to produce cheap food while competing in international markets. Agriculture became globalized in an unprecedented manner, as the adoption of several multilateral and bilateral trade agreements among countries allowed for the freer import and export of agricultural products across national boundaries. Intricate food chains now cover thousands of miles and involve many middlemen, particularly because many processes that used to occur on farms now occur downstream. Agricultural activities currently have among the largest environmental footprint of any human enterprise.⁴⁴

In places like India, agriculture has become ever more industrialized since the Green Revolution, a system of agricultural intensification that the government launched in the 1960s to escalate domestic food production. This intensification involved introducing technologies such as irrigation, heavy machinery, high-yielding varieties (HYV) of seeds whose progeny did not produce viable seeds, and chemical inputs. Abandoning the free or cheap technologies and methods they had been using, farmers began to buy more and more of these commercial inputs with the hope of obtaining higher yields. To encourage this transition, the Indian government subsidized farm inputs such as fertilizers.⁴⁵ Many farmers in states like Kerala became completely reliant on the annual purchase of these new inputs in order to grow their own food.

Globally, as a result of the increased use of chemical inputs and new farming technologies, yields of agricultural staples have grown faster than the world's population. Unfortunately, this triumph of technology has brought with it serious problems. Industrial agriculture today is rife with environmental and social abuses and inefficiencies around the world. For example, as mentioned previously, for about thirty years a public sector company aerially sprayed the pesticide endosulfan over Kerala's cashew plantations and neighboring areas—about forty-five hundred hectares—to control agricultural pests. As Sugathakumari reported at the 2010 biodiversity conference, this spraying, and similar efforts by other farmers in the area, contributed to the birth of several children with developmental defects, as well as a significant decline in biodiversity. Pesticide use also caused severe health problems in adults.

At the same time, the rising yields of staple crops, the main goal of

industrial agriculture, has not lessened the number of people without enough to eat in India. In 2010, several million tons of food grains, worth millions of dollars, rotted in Indian silos. Meant as buffer stock to stabilize food prices, these grains were never distributed and went to waste, in spite of the fact that millions of people in India are malnourished.⁴⁶ The situation repeated itself in 2011 and then again in 2012.⁴⁷

More disturbingly, over a quarter of a million Indian farmers have committed suicide since 1995, due to unbearable debt burdens they built up while trying to industrialize their agriculture. In a bitterly appropriate gesture, most of these farmers took their lives by drinking pesticides.⁴⁸

The list goes on, and it is hardly limited to India: dead zones in the Gulf of Mexico, deforestation in the Amazon, *E. coli* outbreaks from fresh vegetables, and biodiversity loss in Southeast Asia can all be linked to globalized industrial agriculture. And yet, as Eric Holt-Gimenez of the non-profit Food First points out, “We already grow enough food for 10 billion people . . . and still can’t end hunger.”⁴⁹ Indeed, it is estimated that, on an annual basis, we produce four billion tons of food globally, yet up to two billion tons—*half* of all the food produced—are not consumed by people because of factors such as poor distribution and waste.⁵⁰ Our agricultural status quo is leading to social and environmental degradation, while still failing to feed the world’s population.

IS IT POSSIBLE for organic farming in India to remedy some of the ills of modern food production without becoming similar to industrial agriculture in its financing, labor practices, and focus on monocultures? Can Kerala’s organic farming movement and its 2010 organic farming policy ameliorate the social and ecological problems of the state’s agrarian sector? After having spent a year and a half with farmers and policy makers in Kerala, I believe the answer to both questions is yes. More than that, Kerala’s growing organic farming movement illustrates that farmers and their communities in the developing world are recognizing that the way our food system is structured must change. Organic agriculture is providing one concrete and immediate avenue for reform.

During my fourteen months in India, I witnessed many examples of civic engagement, farmer empowerment, and positive changes in

agriculture—all the result of the organic farming movement. One middle-aged organic farmer in northern Kerala told me that he and several other organic farmers now felt politically confident enough as a group to lobby for their interests at the state capital, in the south of Kerala. In the previous year, they prepared and delivered a memorandum of understanding to the Chief Minister, the highest political official in the state, requesting remuneration for losses they had suffered while converting to organic agriculture or in farming organically.⁵¹ This farmer did not consider himself to have been active politically before he became engaged in organic farming, but the new agricultural practices had empowered both him and his community. Moreover, as a beneficiary of the state's organic farming policy, he used government funds to convert his paddy fields to organic farming methods.

On another occasion, during a training session promoting alternative agricultural methods, a young organic farmer tearfully revealed that his cow had saved him from death, implying that he might have committed suicide or been forced off his land if he had continued to farm conventionally. Reverting to organic agriculture and utilizing cow-based inputs had revitalized his farm and his assets. This farmer is now part of a network of other organic farmers in Wayanad District of Kerala, and regularly speaks at training sessions and showcases his organic farm.

Similarly, K. M. George, a leader in Kerala's organic farming movement, adamantly declared to me in an interview that he would never return to chemical-based agriculture.

"Why?" I asked him, intrigued by his defiant attitude.

He explained that his family's health had dramatically improved after switching to organic food production and consumption, cutting down on their need for medical services. He also added, "If you enter my farm, there's a peace."

He continued: "If you go onto our soil during the rain time, there's a lot of life, a lot of life. . . . You can see the earthworms, their peace. Every time you look at the trees, as they grow, there's a mental satisfaction. Last evening, I was working on my beans and tying them. In a few days, when I see some beans start growing, I'm going to think about picking them and making a curry. That's satisfying." George explained that he was happy

to no longer be relying as much on local markets to purchase pesticide-laden produce from unknown farms, since his own farm was producing a significant amount of organic fruits and vegetables. George is now the coordinator of Organic Wayanad, a group of organic farmers in northern Kerala, and actively organizes local farmers to join the organic “family” to act as advocates and reinforcements for one another in their everyday lives and in local politics.

These stories suggest that organic farmers in South India have joined in a strong countermovement opposed to chemical-dependent, market-driven, industrial agriculture.⁵² This countermovement is producing positive political, ecological, and health outcomes for farmers and their communities. These are outcomes that consumers can’t see while at the grocery store, and that reports skeptical of organic farming’s promises have largely ignored.

IN THE NEXT FEW chapters, I examine the emergence of organic farming in South India and its impact on the people who earn their living by growing the food we eat. I also reflect on the criticisms of organic agriculture using evidence from India. I take this place-specific approach to analyzing organic farming because I’m committed to understanding the relationship between nature and culture as dynamic and open-ended.⁵³ The global organic farming movement does not have a predetermined future. What is happening in India and elsewhere, in the United States or Europe, isn’t the only way organic agriculture can develop. I show that alternative farming movements can take a variety of uneven and place-specific trajectories, influenced by government policies, natural disasters, existing institutions, social movements, and global dynamics. These particular circumstances create unique opportunities for substantively criticizing chemical-dependent agriculture and building viable alternatives to it. In Kerala specifically, its history of radical politics and social movements, legacies of land redistribution at the state level, and existing cultural politics are contributing to the growth (and transformative potential) of organic farming in the state.

In the following chapter, I explain why and how industrial agriculture came to India, a place that has historically battled famines and food short-