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EATING LOCALLY

When Jake Hillard bought her iceberg lettuce in the Mabelvale, Arkansas, Wal-Mart, she had no idea where it was grown or how far it had traveled. The average distance traveled by produce sold in Chicago, according to a 1998 study, is 1,518 miles. Much of it comes from California, on one of the half a million or so truckloads of fresh fruit and vegetables that leave that state every year, traveling up to 3,000 miles to reach their destinations.[1] Perhaps Jake's lettuce was on one of those trucks too. But even if the lettuce had been grown right outside Mabelvale, it would have been trucked 220 miles to Wal-Mart's highly automated 1.2 million-square-foot regional distribution center in Bentonville, moved along some of the nearly 20 miles of conveyor belts there, together with the other 450,000 cases of merchandise that pass through the center every day, and then trucked right back to Jake's local Wal-Mart. That's the nature of the distribution system used by Wal-Mart and most other national chains across the United States. The systems are designed to ensure reliability of supply rather than to minimize the distance food travels.[2]

The average distance traveled by food that is consumed in developed nations has increased, partly because international trade in food has quadrupled since 1961.[3] That increase has allowed people in the wealthier nations to enjoy foods all year-round that once had a limited season. For example, in the 1960s, North Americans ate grapes only when North American growers, mostly in California, could supply them, roughly from June through December. Now almost half of the grapes eaten in the United States are imported, many from Chile and other southern hemisphere countries, so grapes are available in the northern winter. The big increase

in imported grapes naturally means that the average distance that table grapes travel to reach the U.S. consumer has also increased.[4]

The pattern is worldwide. In northern Europe, strawberries are available in January—from Costa Rica. Asparagus is flown in, off-season, from South Africa. Even chicken is now imported from Thailand, where labor is cheap. A British study calculated that the ingredients for a single meal, consisting of chicken from Thailand, runner beans from Zambia, carrots from Spain, snowpeas from Zimbabwe, and potatoes from Italy, could have traveled a total of 24,364 miles. A similar meal could have been made with ingredients traveling only 376 miles, if domestically produced ingredients were used and seasonal vegetables like cabbage and parsnips had been substituted for the out-of-season runner beans and snowpeas.[5] But domestically produced food is also traveling further, both in Europe and the United States. In the U.S., domestic transportation of grain products increased by 137 percent between 1978 and 2000, while domestic consumption increased only 42 percent.[6] Agricultural products now account for close to one-third of all domestic freight transportation.[7]

A GROWING MOVEMENT

Mary Ann Masarech often buys her produce from Sherwood Farms, at least in the summer and fall. The farm has been owned by Sherwoods since 1713, and Tom Sherwood, who runs it now, is the 17th generation to cultivate its soil. It is no longer a full-time occupation, though—he makes some extra money working as a carpenter, especially in the winter. There are still four generations of Sherwoods living on the farm—Tom's grandmother, his parents, himself and his wife Christine, and their two small children. The farm has been reduced in size over the years and is now only 36 acres. Tom's father, Schuyler Sherwood, grew mostly corn and tomatoes, with a few pumpkins for Halloween, but Tom has been branching out into eggplants, peppers, broccoli, onions, potatoes, carrots . . . "you name it," he says. They sell only what they themselves produce and usually have about 200 customers on Saturdays during the growing season.

Tom keeps bees to produce honey and to pollinate his crops, and he also has "a couple of hundred" hens for eggs. The hens live in a chicken house surrounded by a fenced-in area "where they go outside during the day and eat their insects and stuff like that. And of course they all fly over the fence . . . they come and go as they want, but as long as they go back in at night, it's okay." The hens have nesting boxes lined with pine shavings where they lay their eggs, which Schuyler collects and washes by hand. Tom doesn't debeak the chickens he raises himself, although some of those he buys have already been debeaked. "I never had a problem. I never had to debeak them." He's also never had a problem with his hens getting diseases from wild birds. At $2.25 a dozen, the eggs always sell out.

For Mary Ann, the freshness and flavor of Sherwood Farm's produce are big reasons for her to buy locally. Tom finds his customers are very discerning about taste, and if he grows a variety that doesn't have that home-grown flavor, they won't sell. He can grow varieties that supermarkets don't carry, bred for flavor rather than their ability to withstand transport and storage.

You don't have to live near a farm to buy from local farmers. On Saturdays, Manhattan's Union Square, traditionally the site of rallies to defend the rights of labor and other leftist causes, is now crowded with shoppers stocking up on fresh produce from farmers who have driven into the city early that morning with trucks full of fresh-picked produce. There were, at the last count, 47 greenmarkets spread across different New York neighborhoods, with 250,000 customers a week in peak season. New York City's Council on the Environment, which organizes the markets, allocates stalls only to regional farmers who produce the food they sell. No middlemen are permitted. Between them, the 175 farmers who regularly sell their goods in New York produce 120 different kinds of apples, a similar range of tomato varieties, and 350 kinds of peppers.[8]

The New York greenmarkets are part of a nationwide movement. St. Paul, Minnesota, spent $2.2 million to renovate its downtown farmers' market, where more than 200 growers and 25,000 shoppers mingle on busy Saturdays. The market has established 13 branch locations around the city and extended operating hours. Kaiser Permanente, the health-maintenance organization, is promoting good health by encouraging farmers' markets at its medical centers, where the customers are employees, patients, and local residents. The United States Department of Agriculture—a department widely criticized for being in the pocket of corporate agribusiness and hostile to small farmers—now hosts a farmers'

market at its Washington headquarters and maintains a Web site that will tell you where your nearest farmers' market is. Similar information is available from non-profit organizations that seek to promote local, sustainable agriculture, like FoodRoutes Network.[9]

In 2004 there were more than 3,700 farmers' markets in the United States—more than twice as many as there were in 1994. The number is growing at an accelerating rate, with nearly 600 new markets added over the previous two years, as compared to only 274 new markets in the two years from 2000 to 2002. More than 19,000 farmers told a U.S. Department of Agriculture (USDA) survey that they sold their products only at farmers' markets. All this is good news for those who enjoy the fresh, varied, and flavorsome goods sold at farmers' markets or local farms. The opportunity to chat to the people who produce your food, and to other shoppers, is also part of the attraction—a study has shown that people have ten times as many conversations at farmers' markets as they do in supermarkets.[10]

Nor is the renewed desire to buy locally produced food a specifically American phenomenon. In 1997 there was only one farmers' market in the whole of the UK, but by 2002 there were around 450, and 70 percent of these describe themselves as thriving.[11] Farmers' markets were unknown in Australia until the 1990s—now they are in all the major cities. In Japan, householders concerned about pesticides and high supermarket prices organized themselves into a cooperative in 1965. That first cooperative rapidly spawned hundreds of others that today have 15 million members and buy billions of dollars worth of produce directly from Japanese farmers.[12] In Italy, Carlo Petrini, a journalist, founded the "Slow Food" movement to protect "endangered" local foods from being driven into extinction by global brands. The growth of the movement has been anything but slow, and it now boasts more than 80,000 members in more than 100 countries.

There is even a term for those who eat only local food: locavores. We first heard the term when a group of self-described culinary adventurers from the San Francisco Bay Area decided that, for the month of August 2005, they would make an effort to eat only food grown within 100 miles of San Francisco. They set up a Web site, www.locavore.com, giving their reasons for doing so and advice about what to buy. August is a relatively easy month to eat locally in the northern hemisphere, because so many vegetables are ready to pick then. The Bay area locavores allow themselves a few imported treats: small quantities of chocolate, coconut milk, vanilla, black pepper, maple syrup, and Parmesan cheese, for example.

A Vancouver couple, Alisa Smith and James MacKinnon, set themselves a much more difficult task when they decided to live for an entire year on food grown within a 100-mile radius. Smith and MacKinnon started out as purists; no sugar, for example. Unable, at first, to find any locally-grown grains, they gave up bread, pasta, and rice. They made turnip "sandwiches" with slices of roasted turnip substituting for the bread, and ate a lot of potatoes. They wouldn't even eat locally produced, organic, free-range eggs because the hens were fed on grain imported from outside the region. Sometimes, walking into their "local" supermarket, they couldn't find a single thing to buy. Fortunately they eventually found a local wheat grower, and although they had to mill it themselves, they were soon joyfully eating pancakes and baking bread.

Is being a locavore just a challenging personal experiment in eating—something that might also be a lot of fun? Or is there a serious ethical argument for buying only locally produced food?

ETHICAL ARGUMENTS FOR EATING LOCALLY

When Mary Ann and Jim were talking about buying locally-grown food, she mentioned that you are more likely to have some firsthand knowledge about the producer and its practices, and Jim said that, in addition to being fresher and riper, the food "hasn't cost an ecological fortune in fossil fuels coming across the continent." The "locavores" just mentioned give similar reasons. Jessica Prentice, one of the Bay Area women who started the idea of eating locally for a month, urges people to eat within their own "foodshed," both to reduce fossil-fuel use and because food loses its flavor when transported long distances. Alisa Smith cites a Worldwatch Institute report as calculating that the average American meal uses up 17 times as much petroleum, and so is responsible for 17 times as much carbon-dioxide emission, as a locally-produced meal would.

Several recent books make essentially the same case for buying locally. In *Eat Here: Reclaiming Homegrown Pleasures in a Global Supermarket,* Brian Halweil, a senior researcher at the Worldwatch Institute and a contributor to the report Smith mentions, asks: Isn't there something wrong

with supermarkets in Des Moines selling apples from China when there are apple orchards in Iowa? Frances Moore Lappé is another big fan of local markets. Thirty years after her *Diet for a Small Planet* became a huge best-seller, she and her daughter Anna Lappé wrote *Hope's Edge: The Next Diet for a Small Planet*, championing the grassroots producers of local, community-based methods of growing, marketing, and eating food. Getting organic and local food, the Lappés write, is a decision "defining who we are."

Many advocacy groups, like FoodRoutes Network, are supporting the move to local food. Colleges, too, are joining the movement—more than 200 of them buy at least some food from local farmers. At Yale, after student groups began to push for local food, Yale president Robert Levin met with Alice Waters, owner of Berkeley's Chez Panisse restaurant and a renowned advocate of local, organic food. That led to the Yale Sustainable Food Project, a joint endeavor of students, faculty, and the university administration, together with the university dining services, to increase the amount of fresh local and organic food served in the university. So far, local organic food is available only at one of Yale's colleges—and students from other colleges who are not entitled to eat there are using fake ID cards to get in.[13]

The fact that local food is fresher and tastes better is not, in itself, an ethical reason for buying it. If I prefer convenience or low prices to freshness and good taste, that's my choice. Protecting my health and that of others for whom I buy food may be an ethical obligation, but local food is not necessarily healthier than other food. Local food is not always organically produced, and pesticide use may be less subject to checks when food is grown by small local farmers than by a corporate giant supplying Wal-Mart. In addition to freshness, taste, and health, FoodRoutes gives three additional reasons for buying locally that are broadly ethical. We'll consider them in turn.[14]

1. You'll Strengthen Your Local Economy

FoodRoutes says:

> Buying local food keeps your dollars circulating in your community. Getting to know the farmers who grow your food builds relationships based on understanding and trust, the foundation of strong communities.

Locavores.com takes much the same line, saying that "buying locally grown food keeps money within the community. This contributes to the health of all sectors of the local economy, increasing the local quality of life."

Is this an ethical reason for buying locally? The San Francisco Bay region is one of the wealthiest local economies on the entire planet. In developed countries, most local economies near major centers of population are doing very well, by global standards. If we have the choice of using our purchasing power in our local economy, or buying products imported, under fair terms of trade, from some of the world's poorer nations, is there any merit in keeping our money within our own community?

When we think ethically, we should put ourselves in the position of all those affected by our actions, no matter where they live. If farmers near San Francisco need extra income to send their children to good colleges, and farmers in developing nations need extra income in order to be able to afford basic health care or a few years of elementary school for their children, we will, other things being equal, do better to support the farmers in developing countries.

There are, of course, further questions to ask: Is exporting food really going to help the poor in developing countries, or would they do better to become more self-sufficient rather than growing commodities for export? If you buy food from developing countries, how much of the money you spend will really go to the people who need it, rather than to transnational corporations? What are the environmental costs of transporting the food from the poorer countries? These questions all need to be investigated, and we will return to them in the following chapter. Until we do, we can't reach any conclusions about whether we should buy locally or from developing countries. Our point now is simply that "keep your dollars circulating in your own community" is not an ethical principle at all. To adhere to a principle of "buy locally," irrespective of the consequences for others, is a kind of community-based selfishness.

Building relationships based on understanding and trust can be a reason for buying locally. Mary Ann values the transparency that comes with personal knowledge and an interpersonal relationship with the person who grows her food. That is a sound reason for buying locally—as long as you are able to talk to the farmers and they are open to their customers visiting their farms and taking a look at what

they do. But not everyone has time for that, and trust and understanding need not be exclusively local.

2. You'll Support Endangered Family Farms

FoodRoutes says:

> There's never been a more critical time to support your farming neighbors. With each local food purchase, you ensure that more of your money spent on food goes to the farmer.

The total number of farms fell sharply for most of the 20th century, and is still falling, if more slowly, now. The proportion of the population living on farms in the U.S. has fallen from nearly 40 percent in 1900 to less than 2 percent today. In the United States there are now only 1.2 million people whose primary occupation is operating a farm, making the U.S. a nation with more people in prison than in full-time farming.[15] A similar collapse in the number of farmers has occurred in all the developed countries and is now taking place in China as well.[16]

The three poorest counties in the United States are in Nebraska.[17] Agriculturally-based counties generally have more people living in poverty and more low-income families than metropolitan counties. They also have a higher proportion of people under 18, but a lower proportion of those 18 to 44, suggesting that many young adults leave the farm and go to the cities. The upshot is that these counties also have twice the proportion of senior citizens as metropolitan counties.[18] Lacking children, schools are closing and once-viable towns have been abandoned.

Iowa once had a diversified agricultural base that supported thriving rural communities. In 1920, ten different commodities, including fruit and vegetables, were produced on more than half of Iowa's farms. But by 1997, that had fallen to two: corn and soybeans. With this increasing specialization, food processing plants closed. Most Iowa products now leave the state in unprocessed form. In 1920, about half of the apples eaten in Iowa were grown in Iowa; now the figure is down to 15 percent, and not many other locally consumed fruits and vegetables are grown there either.[19] Verlyn Klinkenborg, who grew up on an Iowa farm and writes on rural life for *The New York Times*, looks back on the Iowa of his boyhood and finds it difficult to imagine anywhere better to have been a child. But that idyllic place has been destroyed, he writes, by "the state's wholehearted, uncritical embrace of industrial agriculture, which has depopulated the countryside, destroyed the economic and social texture of small towns, and made certain that ordinary Iowans are defenseless against the pollution of factory farming." Klinkenborg's solution is to "try to reimagine the nature of farming."[20]

One way of reimagining farming is to bring together the people who grow the food and the people who eat it. When that happens, the farmers get to keep almost all of the dollars the consumers spend on food, instead of the roughly 20 percent—and falling—they otherwise receive.[21] Manufacturers, processors, advertisers, and retailers normally get all the rest. Transforming that situation could preserve family farms, keep people on the land, and revitalize rural communities, or at least those that are in reasonable driving distance of a metropolis. That would reduce the anguish of those people who are now watching their communities become modern ghost towns. Many farmers feel an irreparable loss at being unable to hold on to the family farm, a loss so deep it can lead to despair and even suicide. One survey has shown that five times as many U.S. farmers commit suicide as die from farm accidents.[22]

Rural depopulation is not itself a bad thing. If people in China prefer to move to the city to find employment rather than work long hours at hard physical labor on the land, it is good that they have this new option. Besides, some "traditional rural values" are better forgotten. Rural communities can be stultifyingly narrow and intolerant of diversity. Inevitably they produce fewer opportunities for people with unusual interests to meet others who share those interests. But some rural values are undeniably worth preserving. When people see themselves as custodians of a heritage they have received from their parents and will pass on to their children, they are more likely to cherish the land and farm it sustainably. If those people are replaced by large, corporate-owned farms with a focus on recouping the investment and making profits for a generation at most, we will all be worse off in the long run. So supporting endangered family farms can be an important value.

3. You'll Protect the Environment

According to Food Routes:

> Local food doesn't have to travel far. This reduces carbon-dioxide emissions and packing materials. Buying local food also helps to make farming more profitable and selling farmland for development less attractive.

Reducing carbon-dioxide emissions is an important ethical concern. Nine of the ten hottest years since reliable record-keeping began in 1861 have occurred since 1994. There is a broad consensus among scientists that human-generated greenhouse-gas emissions are making a significant contribution to this pattern of global warming, and carbon dioxide is the most significant of these gases. The continuation of this pattern will mean more erratic rainfall patterns, with some arid regions turning into deserts; more forest fires; hurricanes hitting cities that at present are too far from the equator to be affected by them; tropical diseases spreading beyond their present zones; the extinction of species unable to adapt to warmer temperatures; retreating glaciers and melting polar ice caps; and rising sea levels inundating coastal areas.[23] A far worse scenario cannot be ruled out: Some scientists believe that the melting of the ice caps could release huge amounts of methane that accelerate further warming, forming a cloud layer so dense as to block out heat from the sun and cause the planet to go into a deep freeze that extinguishes life on earth.[24]

Mitigating global warming is therefore a major issue, and because what every nation does has an impact on every other nation, it is an ethical issue. No nation owns the atmosphere or has the right to use more of it than other nations. The United States, with less than five percent of the world's population, emits about a 25 percent of the world's greenhouse gases, more than any other country. In ethical terms, this means that the U.S. is currently using far more than its fair share of the capacity of the atmosphere to absorb our waste gases. That statement holds true on any plausible criterion of fairness. Does fairness consists in everyone having an equal share, the rule we usually use for slicing up a cake if everyone wants as much cake as they can get? By that rule, the U.S. takes about five times as much cake as it should, if we regard the current global level of emissions as sustainable. However, since virtually all experts agree that this level of pollution is too high, the U.S. is emitting more than five times the amount it should. Is the principle "the polluter pays" fair, as we usually think when a factory pollutes a river? Then the U.S. should be paying, as it is not only the biggest polluter now, it has been for the past century or more, and most of the gases emitted by the U.S. over that period are still up there in the atmosphere. Or does fairness require that the best-off should sacrifice more to help the worst-off, and those who have the greatest capacity to help should do the most? The U.S. is one of the richest nations in the world and has more capacity to help than any other nation.

When the United States refused to sign the Kyoto Protocol, it made other nations bear the burden of taking the first steps toward dealing with the problem of global warming.[25] (The Kyoto Protocol is not, in itself, enough. The cuts in emissions need to go much deeper, and developing nations like China and India will eventually need to be brought in; but it is, at least, a first step.) The United States, by continuing its high, and still increasing, level of emissions, is putting at risk the lives of tens of millions of peasant farmers whose land may turn into desert, or whose low-lying but fertile delta regions in Bangladesh and Egypt may be flooded by rising sea levels.

The long distances that food travels in the United States is part of the high level of energy use in the U.S. food system as a whole. Food production, processing, manufacturing, distribution, and preparation consumes somewhere between 12 and 20 percent of the U.S. energy supply.[26] Per capita, the U.S. uses more energy for food production, processing, and distribution than Asia and Africa use for all activities combined.[27] Nevertheless, transportation of the food is, according to one study, responsible for only 11 percent of the total energy used in the food system, as compared with, for example, home preparation, which uses 26 percent, or processing, which consumes 29 percent of the total.[28] Nor is all transport equal in energy use. Transporting a given amount of food by plane uses the most energy per mile, almost twice as much as road freight and 20 times more energy than sending it by ship or rail.

While we agree that we have an ethical obligation to reduce carbon-dioxide emissions and that transporting food long distances requires energy and produces carbon-dioxide emissions, it does not follow that we can always reduce carbon-dioxide emissions by buying locally produced

food. At Sherwood Farms, Tom Sherwood has put in a hydroponic system to raise early tomatoes in a greenhouse. He hopes to get them a month earlier so he won't have to turn customers away in June when they come asking if the tomatoes are ready. He can also extend the tomato season into October. Much of the energy that ripens these tomatoes is solar heat trapped by the glass, but Tom has also put in an oil furnace that he estimates will cost him about $700 to $800 dollars a year in extra fuel—at the prices current when we talked to him, that's 350 to 400 gallons of heating oil. The greenhouse will hold 330 plants, and at around 20 pounds per plant, should produce 6,600 pounds, or 3.3 tons, of tomatoes. To recover his energy costs, he'll sell them for $2.50 a pound, a 50 cent surcharge on what he charges for tomatoes from the field. His customers will be happy to pay that price, because Sherwood Farm's vine-ripened tomatoes taste a lot better than supermarket tomatoes trucked in from Florida or California, most of which are picked green and ripened with ethylene gas.

If Mary Ann is concerned about reducing the impact of her purchases on energy use and carbon dioxide emissions, she should compare the amount of oil Tom will burn to warm his greenhouses with the amount it would take to truck a load of tomatoes from, say, Florida, where they can be grown without artificial heat. We did a quick back-of-the-envelope calculation and came up with the conclusion that you could truck up from Florida the same quantity of early season tomatoes Tom was going to grow in his greenhouse for less than half the amount of fuel he was going to burn to produce them.[29] In other words Mary Ann would reduce her contribution to greenhouse-gas emissions by avoiding her local farmer's greenhouse-grown early tomatoes and buying tomatoes from Florida. This outcome is especially striking, given that Tom is using heat only to combat late frosts and assist the sun to grow the tomatoes earlier than he otherwise could. The most profligate tomatoes of all, in terms of energy usage, are those grown in heated hothouses in northern countries like Canada and the Netherlands and then exported to the United States. If they travel from the Netherlands by air, that is worse still.

The conclusion of that rough calculation points in the same direction as more careful studies of the energy impact of similar choices in other countries. A British study carried out for the Department of Environment, Food, and Rural Affairs showed that buying local tomatoes outside the usual outdoor season was responsible for three times the carbon-dioxide emissions caused by growing the tomatoes in Spain and trucking them to Britain.[30] Of course, every situation is different, depending on the climate, the transport costs, the produce, the methods of production, how the greenhouse is heated, and, often, the season when the produce is bought. A Swedish study gave similar results to the British study for tomatoes, but showed that energy was saved when Swedes bought domestically-produced carrots rather than Italian ones, because even in Sweden, carrots don't need artificial heat.

FLYING HIGH, SHIPPING LOW

The increasing amount of food being sent by air is a major problem, because air freight uses almost twice as much energy per ton/mile as road freight. Currently, about half of the freight sent by air travels in the hold of passenger flights when they have spare capacity, which is more efficient than sending it on freight-only aircraft, but the use of air freight is growing more rapidly than passenger travel, and so more freight-only aircraft are flying. It has been predicted that aviation will account for 15 percent of all greenhouse-gas emissions by 2050. Although most of that will still be from personal travel, air freight will account for an increasing proportion of that very significant total, and by 2050 could make up nearly a third of the total commercial aviation fleet. Moreover, some experts believe that aviation makes a contribution to the greenhouse effect that goes beyond its energy use, because planes put particulates and water vapor into the upper atmosphere and create additional cloud cover. All of this has a heat-trapping effect that is difficult to quantify but could double that caused by carbon-dioxide emissions alone.[31]

The environmental problems of air travel can create some ethical dilemmas. In Chapter 8, we described the genuinely free-range New Zealand eggs available in the western United States. Eggs are much lighter, on a calorie-to-weight basis, than tomatoes, but even so, it takes the energy equivalent of almost a gallon of diesel fuel to fly three dozen large eggs (weighing about 4 pounds, including the cartons), from Auckland to Los Angeles. Is it justifiable to use that amount of energy to give hens a better life? If no other humanely produced eggs are available, maybe we shouldn't be eating eggs at all.

If air freight is the most energy-extravagant way of moving food, sending it by sea or rail are the most economical ways. Rice is grown in California, under irrigation, but it takes a lot of energy to grow it there—about 15 to 25 times as much energy as it takes to grow rice by low-energy input methods in Bangladesh.[32] The energy used in shipping a ton of rice from Bangladesh to San Francisco is less than the difference between the amount of energy it takes to grow it in California and in Bangladesh, so if you live in San Francisco, you would save energy by buying rice that has traveled thousands of miles by sea, rather than locally-grown rice.

To put the energy involved in sea transport in perspective with other energy uses, taking the average car just five extra miles to visit a local farm or market will put as much carbon dioxide into the atmosphere as shipping 17 pounds of onions halfway around the world, from New Zealand to London.[33] That doesn't include the energy used to truck the onions to and from the docks in New Zealand and Britain, and it assumes that refrigeration was not required to store them, but it does show that proximity to the place of production is not necessarily a reliable guide to energy savings.

Other factors to take into account include the use of energy to sort, deliver, and store produce, especially if it has to be kept frozen, and to load and unload trucks, as well as tallying the efficiency of distribution to each store. A local farm like Sherwood may not incur those costs. But the situation is different for stores in town that sell local produce. Suppose an individual farmer has to take small quantities of produce to five local stores in five different nearby towns. Small vans use more fuel and emit more greenhouse gases, in terms of pounds per mile carried, than large trucks, so distribution to small stores may be less efficient, per pound, than an entire truckload of produce going to a large supermarket.

Then there is the customer's own energy use. Mary Ann lives less than five miles from Sherwood Farm and drives a Subaru Outback, so she doesn't use a lot of gas to go there. Still, her trip to Sherwood Farm to get those tastier tomatoes does use energy that she wouldn't have used if she had bought it all at Trader Joe's, because she goes there anyway for other items.

CUTTING YOUR OWN ENERGY USE

To say that buying local food will reduce energy usage and hence carbon-dioxide emissions is, at best, an oversimplification. The real story is much more complicated. People who do their shopping on foot, by bike, or by using public transport do best—but in developed societies today, the number who do that is decreasing. The British Department of Environment, Food, and Rural Affairs study reported that the number of "food miles" traveled in urban areas in Britain has risen 27 percent since 1992, but this is largely because more people are using cars to do their weekly shopping, rather than walking to small local groceries. For many Americans, however, there simply is no choice—there are no local groceries in walking distance. Driving 20 miles in a big SUV to pick up eggs from a local farmer and then heading off in a different direction to get fresh local produce would almost certainly be less energy efficient than buying everything at a single supermarket, even if the food has traveled further to get there.

Local foods, especially those bought at farmers' markets, are often unprocessed. Processes like freezing, dehydrating, and canning all use energy—but they may also reduce the amount of energy we use when we cook at home. The chicken-processing industry, for example, argues that it is more energy efficient for consumers to buy pre-cooked chicken, which only needs to be reheated. That claim isn't entirely without merit, especially for people who use an electric oven—the least energy-efficient fuel for home cooking.[34] But there are likely to be other serious environmental and animal welfare problems with pre-cooked chicken, as we have seen earlier in this book. If we really want to save energy, we should buy only fresh, unprocessed local food, grown outdoors, and eat it raw, or with minimal cooking.

Following that policy would mean restoring seasonality to fruits and vegetables. People living in northern regions of America or Europe would have to go without fresh tomatoes, lettuce, or strawberries for the winter and early spring. That might seem a hardship that it is unrealistic to expect modern affluent consumers to undergo. It would, however, have the compensating benefit of reviving the now-vanished excitement that used to greet the arrival of the first fresh fruits and vegetables of the season. That's no small gain. Carlo Petrini, founder of the Slow Food

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Then there is the customer's own energy use. Mary Ann lives less than five miles from Sherwood Farm and drives a Subaru Outback, so she doesn't use a lot of gas to go there. Still, her trip to Sherwood Farm to get those tastier tomatoes does use energy that she wouldn't have used if she had bought it all at Trader Joe's, because she goes there anyway for other items.

CUTTING YOUR OWN ENERGY USE

To say that buying local food will reduce energy usage and hence carbon-dioxide emissions is, at best, an oversimplification. The real story is much more complicated. People who do their shopping on foot, by bike, or by using public transport do best—but in developed societies today, the number who do that is decreasing. The British Department of Environment, Food, and Rural Affairs study reported that the number of "food miles" traveled in urban areas in Britain has risen 27 percent since 1992, but this is largely because more people are using cars to do their weekly shopping, rather than walking to small local groceries. For many Americans, however, there simply is no choice—there are no local groceries in walking distance. Driving 20 miles in a big SUV to pick up eggs from a local farmer and then heading off in a different direction to get fresh local produce would almost certainly be less energy efficient than buying everything at a single supermarket, even if the food has traveled further to get there.

Local foods, especially those bought at farmers' markets, are often unprocessed. Processes like freezing, dehydrating, and canning all use energy—but they may also reduce the amount of energy we use when we cook at home. The chicken-processing industry, for example, argues that it is more energy efficient for consumers to buy pre-cooked chicken, which only needs to be reheated. That claim isn't entirely without merit, especially for people who use an electric oven—the least energy-efficient fuel for home cooking.[34] But there are likely to be other serious environmental and animal welfare problems with pre-cooked chicken, as we have seen earlier in this book. If we really want to save energy, we should buy only fresh, unprocessed local food, grown outdoors, and eat it raw, or with minimal cooking.

Following that policy would mean restoring seasonality to fruits and vegetables. People living in northern regions of America or Europe would have to go without fresh tomatoes, lettuce, or strawberries for the winter and early spring. That might seem a hardship that it is unrealistic to expect modern affluent consumers to undergo. It would, however, have the compensating benefit of reviving the now-vanished excitement that used to greet the arrival of the first fresh fruits and vegetables of the season. That's no small gain. Carlo Petrini, founder of the Slow Food

movement, argues that if not having some foods all year round is a constraint, it is much less of a constraint than "to be forced to eat standardized, tasteless industrial-food products full of preservatives and artificial flavorings" and species of fruit and vegetables "with characteristics functional only to the food industry and not to the pleasure of food."[35]

Buying locally produced food is often the best ethical choice, but not *because* the food is locally produced. To reduce the amount of fossil fuel that is involved in producing our food, we should buy local food, if it has been grown with similar energy efficiency to food from somewhere else—but not if the local grower had to burn fossil fuel to provide heat, and not if there is a lot of extra driving involved in picking the food up, or getting it delivered.

"Buy locally *and* seasonally" is a better policy than simply "buy locally"—but it entails giving up a lot of fresh fruit and vegetables we have come to enjoy all year round. Supporting endangered family farms is a good reason for buying local, if our local family farms really are endangered and we are unable to buy from other, equally endangered family farms elsewhere. Transparency is often a good reason for buying local food, if you can visit the farm from which you buy. But sometimes the most environmentally friendly food is grown far away, under natural conditions more favorable to growing the food, and transport by sea is so efficient, in fossil-fuel terms, that buying food from distant countries can contribute less to global warming than buying locally. San Francisco "locavores" would do better to buy imported rice from Bangladesh than to buy California rice. In Britain, about half of all organic food sold is imported. Buying imported organic food could be the more environmentally friendly choice, on a global level, than buying non-organic local food. Moreover, although it is certainly good to protect the environment and support local rural communities, we also have an obligation to support some of the word's poorest farmers, and under fair trading conditions, the best way to support them can be to buy the food they produce. We take up that topic in the next chapter.

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