

10 Making food affordable

Cheap food, by nature of its design, a design predicated upon the socialization of most costs, is not affordable. Conventional wisdom says the surest way to improve global food security is with cheap—and, if possible, cheaper—food. I hope I have turned this “wisdom” on its head. Cheaper food is not the solution. It is the problem.

What is the ultimate goal of any food system? Everyone—*everyone*—I have posed this question to ultimately allude to the ability to feed the world well into the foreseeable future. Cheap food policy will not—cannot—fulfill this goal. Climate change, hunger, malnutrition, over-nutrition, decimated rural communities, and an even more decimated peasantry: we have cheap food to thank for all that.

So to think *more* (and cheaper) is the solution is, well, what’s the term ... oh yeah, crazy.

There is no easy way to make foodscapes affordable. Yet it has to be done. The market is not going to help us; not, at least, without some coaxing from policymakers, politicians, and concerned citizens. This means we need to do more than just vote with our fork. We need to roll up our sleeves and work collectively to make foodscapes that work for us, *all* of us.

I would like to offer in this chapter some suggestions about what an affordable foodscape might look like. One thing I can say unequivocally is that there is no such thing as a one-size-fits-all solution when it comes to affordable food policy. A truly affordable, and *affording*, foodscape is dependent upon the needs of communities and the constraints and opportunities of agroecosystems, rather than something shaped heavily by the wants of corporate shareholders and the drive for quarterly returns.

Envisioning foodscapes that promote health, in the broadest sense of the term. Who could possibly be opposed to that?

Affordable meat

Affordable meat is possible. Indeed, I see livestock playing a critical role in any affordable food system. It is the *amount* of animal products that those

in the livestock industry think ought to be produced and consumed that is problematic, as are the methods that give us cheap meat.

A study in the journal *Nature* addresses nitrous oxide (N₂O) emissions in one specific method of beef production (Wolf et al. 2010). It is commonly thought that pasture-fed ruminants raise atmospheric nitrous oxide levels because grazing disrupts grass’s ability to draw nitrogen into the soil. This study, however, challenges this assumption, showing that grazing can actually reduce N₂O emissions. The research site was Inner Mongolia, where harsh winters alternate with temperate summers. Ungrazed tall grass traps the snow, forming an insulating layer that warms the soil. Grazing, conversely, keeps grasses short. Short grass does not hold snow as well, thus exposing the ground to winter’s full onslaught. This exposure kills many of the soil’s microbes, including those that emit nitrous oxide. Come spring, the soil beneath ungrazed grass has a high population of N₂O-emitting soil microbes as well as significant moisture from snowmelt, which further amplifies microbial activity and, thus, nitrous oxide emissions. The London *Telegraph* published a story irresponsibly entitled “Cows absolved of causing global warming with nitrous oxide” (Gray 2010) when the *Nature* article first appeared. Clearly, this is an overreach—if not an outright distortion—of the article’s conclusions. The *Nature* study is a reminder, however, of how ecological “hoof prints” vary considerably across the livestock industry based on *how* the animals are raised (see also Janzen 2011).

Management-intensive rotational grazing (MIRG)—often just called “rotational grazing,” for those planning to Google the term—has received considerable attention in recent years for its ability to produce meat sustainably, humanely, and, yes, even profitably. A key component of MIRG systems is the utilization of short grazing episodes on relatively small parcels of pasture. Cattle are rotated between small plots, allowing plants sufficient time to recover and grow before the next grazing. This is especially important for the survival of high-quality and high-yielding foliage, which, under continuous pasture conditions, are eaten first and usually given insufficient time to recover before lower-quality (and lower-yielding), invasive plants (weeds) take over.

A growing body of research is touting the value of MIRG (see e.g. Enri et al. 2017; Kemp et al. 2013; Roche et al. 2015). Continuous grazing conditions often lead to soil compaction, diminished soil quality, reduced ground cover, and the elimination of high-quality (and high-yielding) forage. MIRG systems have a considerably lighter ecological hoof print, even though livestock numbers per hectare of land tend to be higher than in traditional pastoral grazing systems, as grazing is carefully monitored for any sign of diminished ecological value. Rotational grazing schemes also rely upon much lower levels of artificial fertilizers and fossil fuels by allowing for the direct recycling of nutrients between livestock and pasture. They have also been shown to increase biodiversity, of wildlife (bird life in particular), grass species, soil microbes, etc.

Indeed, it has been argued recently that previous research on rotational grazing has actually *underestimated its benefits* (Roche et al. 2015). In Roche et al.'s words, "Grazing systems research has largely been conducted at spatial and temporal scales that are orders of magnitude finer than conditions under which on-ranch adaptive grazing management strategies have been developed" (p. 255). They then point, for illustrative purposes, to one highly cited study on rotational grazing where the median pasture area, overall study area, and study duration for the research-based comparisons referenced were 12.7 hectares, 60 hectares, and five years, respectively. Compare this to the median grazing area reported by Roche and colleagues among the ranchers they studied in California and Wyoming—931 and 4,220 hectares, respectively. Moreover,

Over 70 percent of respondents had three or more family generations of experience in ranching, and had a median age of more than 60 years. Therefore, it is not surprising that there are discrepancies in results between on-ranch and experimental grazing systems when attempting to translate between orders of magnitude of temporal and spatial complexity.

(Ibid.: 255)

It should not surprise anyone to read that animal agriculture can be done responsibly, which means sustainably and with animals' and farmers' welfare in mind. The trick, and I admit it is a big one, is to make sustainable livestock work for both producers and consumers. It will be tricky not because it is impossible or somehow unnatural but because the current foodscape is designed around cheap meat, which includes strong social norms about how we "need" to eat *a lot* of it.

Regarding the issue of farm profitability: I should point out here that there is strong economic rationale for farming sustainably. Profitability is less about high yields/outputs than it is about good margins, which speaks to the difference between the price that farmers receive for their products and the cost of production (McMahon 2014: 258). Cheap food was born in an age of cheap energy, which artificially kept prices down, but not costs, which we are all paying dearly for. The cost structure of agriculture will change as we move to an era more sensitive to very real resource constraints, whether regarding water, oil, greenhouse gas sinks, etc.

One way more sustainable models of animal agriculture do not work for producers is due to laws, enacted under the guise of food safety, that create significant barriers to entry for smaller-scale enterprises (Linnekin 2016). For example, many ranchers and poultry farmers, thanks to earlier-mentioned market concentration (monopsony), must ship their animals hundreds of miles to be slaughtered and processed in a USDA-approved facility. This is a reasonable expense for large producers, who have at their disposal a small army of 18-wheelers that can efficiently transport large

numbers of animals great distances. But for smaller-scale producers looking to supply alternative markets, this can be a put-you-out-of-business expense.

Our laws and regulations (e.g., food safety laws) must be revisited and in doing this we need to ask, "What types of foodscapes do they help and hinder?" (Carolan 2017b). For a non-livestock example, look at refrigeration requirements in the US that are placed on vegetable growers. These dictate the use of expensive mechanized refrigeration, even though less-expensive ice chests could perform the exact same job. For large-scale growers, mechanized refrigeration is likely even more cost-effective than ice. Yet for the smaller-scale grower looking to fill a niche, the regulation is cost prohibitive. And if you think ice chests can't be trusted to keep produce cold, some food safety scientists will tell you you're wrong. To quote one, "Coolers are cheap and reliable. Refrigerated trucks are expensive and susceptible to mechanical failure" (Linnekin 2016: 57).

I am not just talking about finding ways to make our food and agriculture laws scale-neutral. Simply allowing smaller-scale, polycultures to take part in the race is not sufficient given the enormous head start that has been given to agents of cheap food—years of subsidies, years of accumulating land, capital, and lobbyists, years of telling consumers they "need" cheap meat (and cheap food more generally), etc.

We have to also talk about shifting the power balance, so that, at the very least, these more affordable, and affording, alternatives can compete fairly in the marketplace of tastes. This will require making credit available to finance mobile slaughtering facilities, changing educational curricula to provide the next generation with opportunities to practice gardening, animal agriculture, and food preparation, outside-the-box thinking like "double bucks," which double the value of SNAP (Supplemental Nutrition Assistan Program) benefits when people use them to buy local fruits, vegetables, milk, cheese, eggs, etc., and making sure existing environmental and labor laws are being followed. At the same time we need to have a parallel conversation about ratcheting up laws to make it harder for companies to socialize their costs (see Box 10.1).

Box 10.1 Animal agriculture laborers and government oversight, or lack thereof

A 2015 Oxfam America report announced that the "Big Chicken Industry Really Treats Its Workers Like Shit" (Oxfam 2015). That would be harder to do if the US government simply funded its agencies tasked with looking out for us. In some instances, the problem is not a lack of regulatory laws; it is lack of regulatory oversight—giving those agencies the resources to do their jobs.

The Occupational Safety and Health Administration (OSHA) has been tasked since the 1970s with policing slaughterhouse-worker safety in the US.

Unfortunately, it is grossly understaffed and underfunded. OSHA inspects less than 1 percent of the country's workplaces (Oxfam 2015). And when it does happen to stumble upon a violation, the fine does not really amount to much. In 2014, its average penalty for a "serious violation" was US\$1,972 (ibid.). No wonder workers are treated like crap in some sectors.

Of course, all this would be made easier if certain laws were not on the books making it illegal to talk negatively about certain agricultural sectors. Let me introduce you to what are known as "ag-gag" laws. In many states, these laws *criminalize* taking pictures, or videos, of the inside of an animal facility without the owner's consent. They really *not* want you to know what is going on in those facilities, which, frankly, ought to make us even more suspicious of them (see Box 10.2).

Box 10.2 Idaho gags on its own ag-gag law

Montana, Missouri, North Carolina, North Dakota, Kansas, Iowa, and Utah have made it illegal for activists to smuggle cameras into industrial animal operations. But a recent event in Idaho might make the days of those laws numbered.

In February 2014, Governor "Butch" Otter signed the "ag-gag" bill into law after video surfaced two years prior showing workers abusing milk cows at a dairy. The bill made people caught filming undercover at Idaho farms eligible for jail time. The law was struck down on August 3, 2015. "This is a total victory on our two central constitutional claims," remarked University of Denver law professor Justin Marceau, who represented the plaintiff, the Animal Legal Defense Fund, in the case. "Ag-gag laws violate the First Amendment and Equal Protection Clause," adding, "this means that these laws all over the country are in real danger" (quoted in Runyon 2015). Later, a judge ordered Idaho to pay nearly US\$250,000 in legal fees to the plaintiff (Cramer 2016).

You cannot only focus on how producers raise their animals without also thinking about, and *changing*, eater preference. To explain this issue, allow me to reproduce an exchange I had with a couple while doing research for a recent book (Carolan 2017b). Let's call this couple Sue and Ricky. They are farmers who live north of Seattle (US) in the lush Skagit Valley. We were talking about their trials and tribulations of breaking into local markets, specifically, supplying their pork to a chain of area restaurants. It almost did not happen, as the restaurant's owner at first only wanted the pork shoulder, one of the animal's juiciest cuts.

"When we first started talking, that's all they were interested in buying from us," Sue told me.

She continued,

It was like getting punched in the gut. When we learned they wanted to buy from us we thought: This is it—something really exciting is about to happen! Then we had that first phone call, We only want pork shoulders. Okay, so I turned to Ricky and asked, What do they expect us to do with the other 80 percent of the animal?

Ricky and Sue eventually convinced the restaurant owner to buy their ham as well and mix the two: four parts ham, six parts shoulder. Together, the shoulder and ham constitute between 40 and 50 percent of the animal's total carcass weight. "We could work with those numbers," Ricky explained. "It's not hard to find buyers of our loins and bellies [bacon]. Plenty of higher-end restaurants to take those. That just leaves various miscellaneous parts that we ground into sausage" (p. 85).

Welcome to the whole-animal problem: the realization that polycultures within the farm gate, where animals of equal proportions are raised, have to link up with polycultures (e.g., tastes) outside of it. Ricky again, "The industrial system has gotten to the point where chickens are damn near nothing but two giant breasts." He said this while reaching for a framed picture of himself standing in a pasture among chickens and cattle. Handing the picture to me, he continued,

Our animals have to do more than just make white meat, so they can't be just breasts on legs. For one thing, our animals have to actually walk so they can clean up after our cattle and hogs while fertilizing pasture behind them.

After pausing a few seconds to let me look at the picture, he added, "People don't fully appreciate the difficulties we face trying to hook up a polyculture to a system not designed for diversity" (p. 86).

Making polycultures work, then, is not simply about getting people to eat *less* meat but getting people to eat *different cuts* of meat too. After all, as Ricky from above reminds us, these animals do not supply only "choice" cuts—they're not "just breasts on legs"—but *all* cuts.

Sociological pathways to affordable protein consumption

Changing behaviors and tastes takes time. I am not a fan of mandating diets or certain practices or in outlawing certain foods. The reason: such actions rarely work, as evidenced recently in Samoa when the government tried banning the sales of turkey tails, which merely led to the creation of a black market of this fatty food (Barclay 2013). How, then, do we encourage eaters to choose more affordable protein pathways?

We need to first be mindful of cultural realities. When talking about proteins we have to realize meat's special status, as a signal of wealth and success in many parts of the world. And the redder the meat the "better." Douglas and Nicod (1974) conducted a seminal study of meals among Britons and found meat to be at the center of practically every meal. Its cultural dominance can be seen by the fact that its presence signifies the dish, even when it is just one ingredient of many, whether salads (*chicken cobb salad*), soups (*beef stew*), or casseroles (*tuna casserole*). The dominant position of meat in Western cuisine is even reflected in Western vegetarian culture, as non-animal products are made to appear as much like meat as possible—think veggie *hotdogs*, soy *hamburgers*, eggplant *bacon*, and the like (Gvion-Rosenberg 1990). In the past, substitution of one food or ingredient for another was the result of scarcity (Montanari 1994).

Yet the pathway to dietary change is helped along considerably when the food doing the substituting is similar to the one it is replacing. Drawing lessons from an analysis of dietary changes in the US, Wansink (2002) notes that for a novel food to become "accepted" it must (1) be available, (2) taste good, (3) be familiar, and (4) look, taste, and feel as in a way that is familiar. That last point helps explain why, for instance, soy-proteins are made into the very foods they are looking to replace—hotdogs, patties, etc. This also explains why some, who are experimenting with edible insects, are placing them into foods like pizzas and grinding them up into hamburgers, soyburgers, and lentil burgers.

In sum, one of the more significant barriers to overcome in the West is current meal formats and hierarchies. While the conventional hierarchy seems to be less followed by younger generations it does not look like it will entirely lose its cultural significance anytime soon (Schosler et al. 2012). Acquaintance with "unconventional" meal structures, new cooking abilities, and an openness to experiment with foods are all variables that play into whether people are willing to explore eating meals without meat (ibid.).

A lower-hanging fruit, which might be employed to bridge consumers from one protein pathway to another, could be to not initially challenge existing meal formats and hierarchies. Instead, the aim could be to make more incremental changes towards the proteins consumed, allowing eaters time to become familiar with the foods, flavors, tastes, and mouth feels associated with them. A good example of this happening successfully is with soybeans. Thirty years ago soybeans were a highly stigmatized food, at least in North America—so much so that "soybean oil" had to be called "vegetable oil" because no one would buy the former. Fast forward to today: the supply of edible soybeans can barely keep up with demand, though calling them "edamame" was initially strategic to avoid the term "soybean."

The long-term aim of this technique: an intermediate step to acclimatize consumers to a new meal structure that does not have red meat at the top.

As noted, most meat substitutes fit well in this pathway as they do not require consumers to make any additional adjustments to meal patterns and they are designed to look, taste, feel, and even smell similar to the meat they are replacing (Schosler et al. 2012). Another piece that could be emphasized by these foods is that they allow for the easy preparation of a vegetarian component alongside with meat in households where some people eat meat and others do not. This could also act as a pathway to further adoption. As meat eaters in household see others eat alternative protein they might become more likely to try the alternatives themselves (Carolan 2011).

Beyond taste, affordability, familiarity, and accessibility my own research suggests that policy needs to be directed at giving people the requisite skill sets and knowledge to prepare and cook alternative foods, proteins included (Carolan 2011, 2017b). Even if alternative proteins were to become less expensive than conventional proteins, without knowing how to eat those foods consumers will continue to eat what they know and what they know how to prepare. Thought also has to be given to the types of materials that are needed to prepare these new proteins. If they are going to require new pots or pans, for instance, then that is another transaction cost that needs to be taken into consideration. Consumers are less likely to adopt new foods if such an act requires investments in new technologies and materials.

Of course, none of this is meant to replace the importance of education. Programs to educate consumers on dietary changes to mitigate major diseases, such as lowering animal fat intake while increasing plant food intake, are essential. Yet I place this recommendation later in this section to emphasize the point that education will not solve anything by itself. While an important piece in all of this, it is but one solution among many (see Box 10.3). Telling or teaching—two sides of the same coin, if you ask me—a person to eat differently assumes an oversimplified view of food. How questions like "What's for dinner?" and "What do you want to eat for dinner?" are answered involve matters that go beyond state mandates and nutritional literacy campaigns. The issue is less about food addiction and more about cultural reproduction. Eating food is often about being connected—to others, part habits, cultural identities, etc. To eat differently, then, we have to encourage different connections (Carolan 2017b).

Box 10.3 Words matter: rethinking how we describe certain foods

On the heels of nutritional literacy campaigns, restaurants, grocery stores, and health officials are busy promoting the health properties and benefits of nutritious foods to encourage people to choose them. There's one major problem with that strategy, however: it looks like it turns people off from these foods, as eaters tend to rate foods that they perceive as healthier as less

tasty (Raghunathan et al. 2006). So why not use some of the same language used to describe, say, sizzling crispy bacon to talk about a zucchini dish? Sizzling crispy zucchini anyone?

According to a recent study, chances are improved greatly that you will actually want to eat that vegetable if it were described this way—versus, say, calling it lightly sautéed healthy zucchini and a good source of Vitamin A (Turnwald et al. 2017). Elsewhere, it was discovered that if a plant-based dish were listed in a separate vegetarian section on a menu, non-vegetarians are 56 percent less likely to order it than if it is listed along with other entrees (Peters 2017). The reason: because, again, many people tend to associate “meh,” if not “yuck” with the descriptor “vegetarian” (Hartmann and Siegrist 2017).

If you are what you eat, and if your eating is based in part on how we talk about food, than we had better start talking differently about those foods that enable affording foodscapes.

Biofuels: burning the hand that feeds us

“You care more about feeding your cars than you do people.” That’s what I was told a few years ago by someone who was visiting my university from Nigeria. He was referencing the love affair that Western countries appear to have towards biofuels, though this affection appears to be spreading across countries, as evidenced by China’s massive investments into the sector. Of course, biofuels have their critics, even in countries like the US and China, where hundreds of millions of dollars are spent annually on agro-fuels. But practices speak louder than words, and those actions speak volumes about the foodprint biofuels will continue to have well into the future.

World ethanol production has increased from roughly 5.5 billion gallons (17 billion liters) in 2000 to 25.7 billion gallons (97.2 billion liters) in 2015 (see Figure 10.1). While a fraction of the world’s biofuels, biodiesel production has also grown in the last decade, from less than one billion liters in 2000 to approximately 21 billion in 2013 (www.afdc.energy.gov). And thanks to government biofuels targets, these numbers are only going to go up.

Worldwide, mandates for blending biofuels into vehicle fuels have been legislated in at least 41 states/provinces and 24 countries and require blending 10–15 percent ethanol with gasoline or 2–5 percent biodiesel with diesel fuel. For example, Brazil, Indonesia, and the EU expect to meet 10 percent of their energy demands by 2020 with biofuels. China hopes to meet 5 percent of their energy demands by 2020 with biofuels. While approaching four billion liters—three in ethanol and one biodiesel—as of early 2015, that is still less than 1 percent of China’s liquid fuel production. And its thirst for those liquids is growing with every year.

Meanwhile, the US has its own biofuel aspirations, namely, to produce 36 billion gallons by 2022, with at least 16 billion gallons from cellulosic

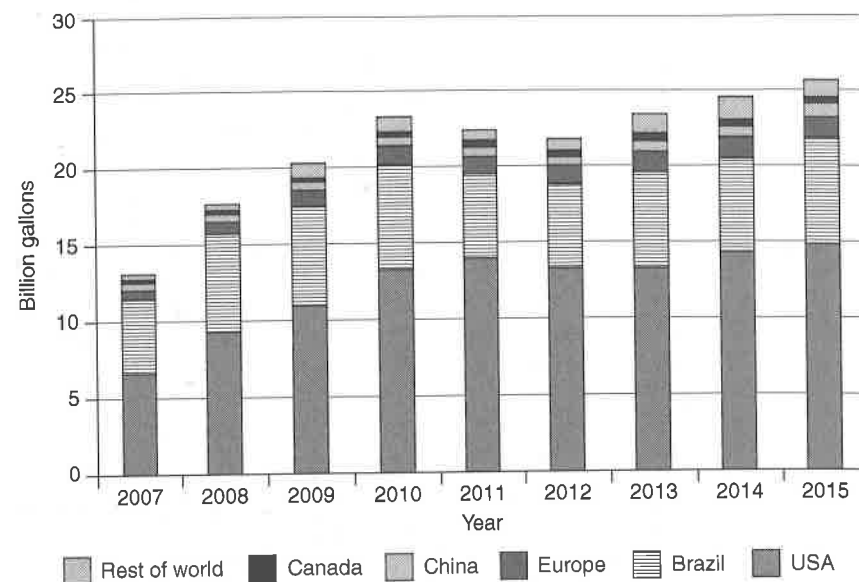


Figure 10.1 Global ethanol production by country/region and year, 2007–2015.

Source: Alternative fuels data center, at www.afdc.energy.gov/uploads/data/data.../10331_world_ethanol_production.xlsx.

biofuels and a cap of 15 billion gallons for cornstarch ethanol (see Box 10.4). As they strive for this target, more food is being redirected toward fuel. In 2000, less than 5 percent of the US corn crop was used to produce ethanol. In 2013, 40 percent went to produce ethanol. It has been estimated that, if the world’s biofuels targets were met, 10 percent of the world’s cereal output would be diverted from food to fuels, pushing food prices up anywhere from 15 to 40 percent (*The Economist* 2011).

Box 10.4 The curious US–Brazil biofuels trade relationship

The FAO and the OECD (OECD and FAO 2012) project a massive rise in ethanol trade between the US and Brazil, where the US will import four billion gallons of ethanol from Brazil, while Brazil will import two billion gallons of ethanol from the US. This caused one policy expert to ask, “Couldn’t we just save all those transactions costs and shipping related greenhouse gas emissions by keeping our ethanol and cutting our projected ethanol imports from Brazil in half?” (Wise 2012). The problem lies in the abovementioned US biofuel mandate, which stipulates 36 billion gallons of renewable fuel use in the US by 2022. As first-generation biofuels—such as ethanol derived from corn—have questionable environmental benefits the

mandate requires that the majority of this fuel be met by “advanced bio-fuels.” Production of these fuels has stalled in the US, however, as the country has become locked into first-generation biofuels due to lavish subsidies and a powerful corn lobby. Enter Brazil, whose sugarcane-based ethanol is considered “advanced” (while having a better GHG-reduction score than corn-based ethanol it comes with its own social and environmental concerns). Following the most conservative of the FAO-OECD’s scenarios, Brazil will import two billion gallons of corn ethanol from the US to make up for the domestic shortfall created by its four billion gallons of sugarcane ethanol exports to the US. In other words, “they’ll take our [US] low-grade corn ethanol if they can get a higher price for their sugar-based equivalent” (Wise 2012). Not only do biofuels—especially first generation—drive up the price of food. But now we learn that it does not even help nations like the US achieve energy independence. In fact, it makes them *more* dependent on other nations.

The top six ethanol producers in 2015 were the US, Brazil, Europe, China Canada, and Thailand, producing, respectively, 14.3, 6.2, 1.4, 0.6, 0.5, and 0.3 billions of gallons annually (www.afdc.energy.gov). The US also led in biodiesel production in 2015, with 4.6 billion liters, while Brazil took second place with 4.1 billion liters, followed by Germany (2.8 billion liters), France (2.4 billion liters), and Argentina (2.1 billion liters) (Statista n.d.).

Beyond the obvious critique that surrounds “feeding” food to cars, I want to say a little about the alleged community development and pro-poor potentials of biofuels. When investigating the links between rural development and biofuel processing plants, it is always a good idea to ask “Rural development for *whom*?” Research has brought some clarity to this question, concluding that ethanol-processing plants are often located in communities and regions least in need of rural revitalization, and that these initiatives most benefit community elites (see e.g., Gasteyer and Carrera 2013; Kulcsar et al. 2016). In short, this research finds that the biofuels economy has thus far only reinforced the structural advantage of certain non-metropolitan localities by locating in communities that *already* possessed thriving economies, low levels of unemployment, less poverty, and lower rates of income inequality. This research also tells us that these processing plants were more likely to be located in proximity to large corn/grain supplies—in other words, large grain farms—and in regions with a well-developed rail and highway infrastructure.

Such research has since expanded, looking at who most benefits in lower-income countries when the biofuel sector comes to town. A study by three Colombia-based scholars (Castiblanco et al. 2015) analyzes the socioeconomic impacts of the expansion of oil palm plantations in Colombia. The findings collaborate those from North American-based scholars, as they emphasize how institutional and social conditions are deeply

consequential in shaping *who* benefits from biofuel-based rural development schemes. Oil palm municipalities had larger per capita incomes than those where the crop was not cultivated. However, violence and land tenure concentration also tended to be higher in municipalities with palm plantations, which helps explain the persistence of inequality and poverty in these areas. As the authors argue:

For oil palm production to become a ‘blessing’, it is important that the agroindustry generates sustained positive economic linkages with other land uses and economic activities, in order to contribute to a regional productive transformation and diversification.

(Castiblanco et al. 2015: 41)

In other words, institutional (high levels of corruption, overlapping jurisdictions, institutional and infrastructural isolation of certain municipalities, etc.) and social (violence, low levels of social and political capital, high levels of inequality, etc.) conditions inhibit long-term growth and rural development, even in those zones that attract oil palm plantation investment. Put still differently, rural development is only partially about economic development. Also important are those social, cultural, and political organizations and networks that determine the distribution of those resources, and whether they are distributed fairly.

I have included biofuels in this chapter for two reasons: (1) to critique them but also (2) to remind readers that they could be a part of an affordable foodscape. Just like, say, animal agriculture, *how* we produce and process biofuels is what is really problematic about them. Roughly 78 percent of the world’s poor live in rural areas, most of who are deprived of modern energy services (World Bank 2014). If done in ways that are mindful of existing social, economic, and infrastructural inequalities, with an eye toward their *mitigation* rather than their acceleration, biofuel production has the potential to tackle rural poverty (Clancy 2012). Remember also that a lot of the critiques directed at biofuels are directed specifically at the *monocultures* these systems are premised on. Biofuels generated from *polycultures*, where foods and fuels are raised simultaneously, have generally not been studied. Affording biofuel policies and practices also need to be predicated on such phenomena as land reform, stronger anti-trust law, and more robust environmental and labor protections (de LT Oliveira et al. 2017).

Affording foodscapes requires available land and new farmers

While biofuels mandates are helping to further lock *in* monocultures (they’re also linked to land grabbing policies, as noted in Chapter 3), land tenure practices and policies are locking millions *out* of agriculture entirely.

Land succession: if you are interested in what you eat, and who grows it, you are going to want to pay attention to this topic. Demographic realities, like the fact that the average age among US farmers is approaching 60, are expected to result in an estimated 70 percent of US farmland changing hands in the next 20 years (Dean 2011). This provides some context to the USDA official who recently told me “we’re ten years away from the largest land transfer in the history of the country.”

More than 600 million of the 900 million acres currently in production in the US are expected to change hands in the next couple decades (Agribank 2015). Individuals identifying as White own 98 percent of all farmland in the US (Calo 2016). It will be interesting to see what happens. Farmland ownership patterns might change, radically even, perhaps in ways that better represent the demographic realities of all whose wish to farm. Or they might become even more locked in. A survey of California landowners reveals that 79 percent of respondents plan to place their parcels permanently into family or individual trusts, meaning the state is looking at a future where its countryside is farmed almost entirely by tenants (*ibid.*).

Approximately 45 percent of all farmland—that’s close to 400 million acres—in the US is rented. If renting is cheaper than buying, what is the problem? It makes land more accessible, right? But remember, rented land tends to be leased to individuals who *already* farm. Landlords generally have no interest in overseeing hundreds of leases—who would? It is a lot easier to rent ground in increments measured in the *hundreds* of acres, which is far more land than what beginning farmers looking to supply local and regional markets need. I recently had a conversation with a USDA official—let’s call him Tom—who explained to me how tenant farming tends to support more of the same.

Most landlords are retirees using their land as a 401k; using it to finance their retirement. They want to keep it simple by leasing their land to one person, or to two at the most. And since this is their retirement they want to rent to a known entity, meaning someone that has been farming a long time. Not someone starting out; certainly not to someone looking to service less-established markets.

Tom’s comments square with a 2014 survey of non-operator farmland owners in Iowa. Roughly 75 percent of all agricultural landlords were 65 years old or greater—18 percent were at least 85 years old. Another interesting fact: slightly more than 40 percent non-operator landowners in the state are women—widows in many instances (Zhang 2014).

The USDA, to its credit, is at least trying. They have provided more than US\$100 million, since fiscal year 2009, in program funding for the Beginning Farmer and Rancher Development Programs. (Granted, \$100 million over the course of eight years is a drop in the bucket compared to the half trillion dollars projected to be spent over 5 years thanks to the 2014 Farm

Bill. I did not say the USDA was trying very hard to solve the problem.) The USDA’s Farm Service Agency (FSA) also provides loans to cover operating expenses, the purchase of farmland, or to buy livestock and equipment. There are also more small-farm training workshops and incubator farm programs than I can count.

Helpful? Yes. Sufficient? No. What we really need are new land transfer strategies. The following are a few potential approaches to land access to consider as we think about who is going to grow this affordable food.¹

Transition CRP land to new farmers. With the US Conservation Reserve Program (CRP) fully subscribed, we can expect a significant amount of currently enrolled land to come back into production as contracts expire each year. The land coming out tends to be highly productive, suitable for livestock and in some cases cropping. Incentives could be enhanced that help get this land into the hands of new farmers and ranchers.

Engage land trusts in protecting affordability of farmland. A conservation easement allows a land trust or other similar entity to purchase the development rights on a specified property to protect the farmland from being sold for purposes other than farming. To encourage this, programs such as the US Agricultural Conservation Easement Program could be expanded to prioritize conservation easements that protect the affordability of farmland, have an identified successor or succession plan, or involve a transfer of a farm to a beginning farmer. Such policies increase access to affordable farmland while ensuring that land remains in agriculture.

Incentivize sale of farmland through tax incentives. Tax policies could be written to support beginning farmers, including: capital gain breaks for farmland sales to qualified beginning farmers; tax credits for long-term, conservation-friendly leases to new farmers; and improvements in the long-standing first-time farmer state “aggie” bond program.

Expanding credit and training. New farmers everywhere need access to affordable credit, along with help developing financial and business skills. New farmers face greater barriers accessing credit than more established farmers, who have more assets and collateral and a more predictable production and revenue history. One program that has seen significant success in this area in the US is the public-private partnership Down Payment Loan Program (DPLP). DPLP has financed over 12,000 new and beginning farmers as of 2015, helping aspiring farmers to buy their first farmland while creating opportunities for beginning farmers to expand.

Improving risk management options for new farmers. Adequate risk management strategies are critical to any farming operation and are especially important in a farmer’s first few years, during which they may have few assets or savings to fall back on in case of a crop failure or lower-than-anticipated revenues. Access to subsidized crop insurance products is also critical. Unfortunately, in most places where this is available—like the US—it does not adequately serve all farmers. This is especially true for beginning farmers, as most crop insurance policies are based on something

like a five-year production history, and those pursuing local, value-added, organic, and other rapidly growing markets.

Level the playing field for new farmers and farms of all sizes. I have addressed this issue before, about how the playing field is not level. The structural advantage goes to cheap food, so we need to *actively work to promote* alternatives. For example, the availability of unlimited, deep premium subsidies in recent years for federally subsidized crop insurance has dramatically reduced the risk for the country's largest farms, freeing up capital for these large operations to further increase their size by purchasing land at higher prices than would be possible without the subsidies (Duffy 2016). This competitive advantage created by unlimited crop insurance subsidies disadvantages smaller and more diversified farms and beginning farmers as it makes them less able to compete with their larger counterparts for land, further exacerbating the difficulty beginning farmers face in gaining access to fertile ground. Crop insurance reform is not only necessary from a fairness standpoint, so as to create a fair and level playing field for all farmers, but also necessary for establishing a new generation of farmers (who, hopefully, are as diverse as the people doing the eating!).

Building peer-to-peer networks. As many new and aspiring farmers are not born and raised on a farm, and thus were not lucky enough to inherit their farmland, we need to think of ways to give future farmers the skills to farm. In the past, farmers acquired these skills through what was called the agricultural ladder: practicing farming from a young age—from unpaid family work, to wage labor, to tenant farming, to a mortgaged farm, and, finally, to full farm ownership (Bates and Rudel 2004; Spillman 1919). Much of this knowledge is experiential; that is to say, you learn it by *doing* it (Carolan 2006, 2011). Communities of social learning need to be created, where new farmers can learn from peers. These networks not only allow for the sharing of knowledge, but also things like seed, open source farming software, equipment, etc. (Carolan 2017b). And, importantly, these networks also help build community.

Food sovereignty, food security, and *La Via Campesina*

The term “food security” was first used in a policy context at the 1974 World Food Congress. Later that year the FAO came up with the following definition, where food security was said to involve

ensuring, to the utmost, the availability at all times of adequate world supplies of basic food stuffs, *primarily cereals*, so as to avoid acute food shortages in the event of widespread crop failures or national disasters, sustain a steady expansion of production and consumption, and reduce fluctuation in production and prices.

(Quoted in Shaw 2007: 150; my emphasis)

I will pick up on this definition momentarily, as there is plenty to question in a policy position that reduces “food security” to an “adequate” supply of rice, wheat, millet, and maize (cereals).

Its “spirit,” if you will, can be traced back to at least the 1940s (Carolan 2013). For example, the Health Division of the League of Nations was charged in the 1930s with assessing the food situation among represented countries. The resulting publication, *Nutrition and Public Health*, released in 1935, represents arguably the first account of hunger in an international context. The report offered a stark reminder that the modern age, in terms of sheer numbers, was ushered in with as many hungry bodies (perhaps more) as any that had preceded it.

A few years later, in 1941, US President Roosevelt gave arguably the most consequential State of the Union Address of the twentieth century. In this speech, Roosevelt identifies “four essential freedoms” that are shared “everywhere in the world”: freedom of speech; of worship; from want; and from fear. The founding conference of the FAO of the United Nations in 1943 took Roosevelt’s call to heart as it looked specifically “to consider the goal of freedom from want in relation to food and agriculture” (FAO 1943: 1). One could locate the original spirit of food security within these four essential freedoms. In doing this, it is understood to be but a means to even more profound ends, namely, the enhancement of individual and societal freedom, prosperity, and wellbeing.

Food security, as currently conceived, operationalized, and measured in policy circles, leaves too much unquestioned and too many problems ignored. For example, the FAO and WHO compile food security indicator statistics on things like the prevalence of underweight children under the age of five and the proportion of population below minimal levels of dietary energy consumption. Yet these data tell us absolutely nothing about the state of food security in high-income nations and at a minimum merely reinforce something we have long known: that incredibly impoverished countries are terribly food insecure. Or take comments from a UN-sponsored book titled *Food Security*, which remarks that “the extent of hunger and food insecurity [in the US] is much less severe than in the developing world” (Dutta and Gundersen 2007: 44). In the space of a single sentence the affluent US is valorized while the entire developing world is condemned on the basis of their respective levels of food security. Perhaps such pronouncements are empirically justified when food security is narrowly defined as, say, calories produced per capita. But would the statement still hold if food security were viewed through a lens more in tune with the “spirit” mentioned above, where the aim is lifting societal wellbeing and not just global cereal yields?

Dominant food security discourse also shields certain actors from criticism. Again, take the case of the US—frequently extolled as the most food-secure nation in the world (at least if you spend any time listening to US politicians). More than a third of its adults are defined as obese (CDC n.d.).

Avoidable annual food waste within this country occurs at rates that are embarrassing, as discussed in Chapter 6. The annual total cost of pesticides alone in this nation, upon public health, the environment, and human communities, has been placed in the billions of dollars (Pimentel and Burgess 2014). And, as far as subjective wellbeing goes, the average citizen in the US reports far lower levels of life satisfaction than her counterpart in countries with significantly lower income levels and much higher food costs (Carolan 2013). We could not emulate this model globally if we tried, as it is entirely unsustainable. But even if we could, given the points just mentioned, why would we *want* to?

In response to having the term “food security” becoming, in some circles, sadly, synonymous with cheap food, activists and peasant activists especially have formed organizations like *La Via Campesina* where the aim is to promote food sovereignty.

La Via Campesina is perhaps the world’s most important transnational social movement, even though most of the general public in affluent nations have never heard of the group. As explained on their website (www.viacampesina.org/en/):

La Via Campesina is the international movement which brings together millions of peasants, small and medium-size farmers, landless people, women farmers, indigenous people, migrants and agricultural workers from around the world. It defends small-scale sustainable agriculture as a way to promote social justice and dignity. It strongly opposes corporate driven agriculture and transnational companies that are destroying people and nature.

The movement is composed of 164 local and national organizations in 73 countries from Africa, Asia, Europe, and the Americas and collectively represents about 200 million peasant families. *La Via Campesina* is diverse and international in its scope: landless peasants, tenant farmers, sharecroppers, and rural workers largely in Latin America and Asia; small and part-time farms in Europe, North America, Japan, and South Korea; peasant farms and pastoralists in Africa; small family farms in Mexico and Brazil; middle class (and some affluent) farmers in India; and poor urban (and urban-fringe) dwellers in countries like Brazil and South Africa.

La Via Campesina holds the term “peasant” as a badge of honor and an identity to be embraced. This is in contrast to the dominant English use of the term, where “peasant” is linked with feudalism and thus given a pejorative meaning. The term “peasant”—as opposed to, say, “farmer”—is meant to imply a distinct way of life that is shared by many, in both low- and high-income countries. Stated plainly, *La Via Campesina* strives to give peasants a voice; not an easy feat in a discursive space dominated by the likes of the WTO, powerful nation-states, and large transnational corporations. To avoid cooptation, the movement does not allow groups to

join that are not actual, grassroots-based peasant organizations. This link to the peasant identity has been a source of tremendous strength.

At its heart, *La Via Campesina* is striving to promote food sovereignty (see Box 10.5). The term was first injected into the international public debate during the World Food Summit in 1996, though its genealogy dates back to a Mexican government program in the early 1980s (Edelman 2013). Used to encapsulate an alternative paradigm to food and food production, food sovereignty has become part of the popular lexicon among actors within nongovernmental organizations, academia, and the peasant community.

Box 10.5 Food sovereignty movement scores victory in Ecuador

The Ecuadorian Constitution (2008) declared food sovereignty a strategic goal and a government obligation, embracing many of the proposals put forth by Ecuadorian federations linked to *La Via Campesina* (for a detailed analysis of this process see Giunta 2014). For example, Article 13 of the Ecuadorian Constitution states: “Individuals and communities have the right to safe and permanent access to healthy, sufficient and nutritious food, preferably produced locally and in accordance with their different identities and cultural traditions.” Regarding food sovereignty, Article 281 explains: “Food sovereignty is a strategic objective and an obligation of the State to guarantee that individuals, communities, towns and nationalities achieve permanent self-sufficiency with foods that are healthy and culturally appropriate.”

As detailed in Table 10.1, food sovereignty speaks to a way of life that is in many ways diametrically opposed to the cheap food view that presently dictates conventional food and agricultural policy. The centrality of food sovereignty is reflected, for example, in a unique ritual practiced by the organization. The group engages in seed exchanges at many of their gatherings, where representatives will bring seeds from their homeland to share with others. This practice not only signifies the importance of seed in the production of food but also their importance in the very reproduction of culture itself (see Box 10.6).

Box 10.6 The US Seed Library Movement

If you go back to the first 100 years of the US you would find a society built on people sharing seeds. That was, in fact, the *only* way new seeds were acquired—that and saving seeds from the prior year’s harvest (see Figure 10.2). Seed saving and sharing is not only becoming a lost art, it is also illegal in certain instances.



Figure 10.2 “Save seed corn now!” poster (1917).

Take a case from 2014, when the Pennsylvania Department of Agriculture informed a seed library in its state that they were in violation of a 2004 state law—the Pennsylvania Seed Act of 2004. The seed library, its officials were told, fell under the definition of a “seed distributor,” which meant they needed to start acting like one, which meant they needed to meet stringent labeling requirements. The labels, which need to be in English, must clearly state the name of the species or commonly accepted name of the kind of plant. If it is a hybrid plant, the label must explain something about whether the seed has been treated. Lastly, labels must include the name and address of the seed-sharing entity. As a seed distributor, the library was also told they must conduct costly germination and purity analyses.

Juxtapose that story with a more encouraging one: In September 2016, the Seed Exchange Democracy Act (Assembly Bill 1810) was signed into law in California. The bill amends the “seed law” chapter of the state’s Food and Agricultural Code thus exempting seed libraries from burdensome testing and labeling requirements. That legislation was considered a great success among seed library activists. The aim is to now repeat that winning strategy in other states.

Table 10.1 Cheap food versus food sovereignty models

Issue	Cheap food model	Food sovereignty model
Free trade	Everything ought to be governed by the market	Except food from trade agreements, as it is fundamentally different from, say, cars
Production priorities	Agro-exports	National and local markets
Subsidies	Claims to favor market logics yet relies heavily on government subsidies for the largest farms	Subsidies okay if they level the playing field and do not unduly harm small scale farms in developing economies
Food	A commodity to be traded (fundamentally no different from any other commodity)	A unique commodity that everyone has a right to
Agriculture	Increasingly an occupation for those with access to significant amounts of credit, capital, land, and labor	A right of rural peoples
Hunger	A technological/production problem	A problem of access (of food and of land to produce food)
Food security	Achieved through trade and by adopting green revolution principles	Improved by enabling the hungriest to produce food and by embracing Rainbow Evolution policies
Seeds	Can be privatized (like land); a commodity with no cultural significance	Common heritage of humankind that everyone has a right to; an artifact that allows for the reproduction of culture
Overproduction	Good (leads to cheap food)	Bad (erodes food security around the world)
Peasantry	A holdover from feudalism (which no one wishes to return to); a pejorative term	“People of the land”; a proud identity for hundreds of millions around the world

In their position statement “Food Sovereignty: A Future without Hunger,” members of *La Via Campesina* have written,

Food sovereignty is the right of each nation to maintain and develop its own capacity to produce its basic foods respecting cultural and productive diversity. We have the right to produce our own food in our own territory. *Food sovereignty is a precondition to genuine food security.*

(*La Via Campesina* 1996: 1; my emphasis)

Even those highly critical of the term food security, and who are looking to supplant it with something else, are drawn back to it. I also feel its pull. In keeping with Roosevelt’s “four freedoms” speech, genuine food security is about promoting freedom with the ultimate aim of enhancing human, societal, and ecological welfare. That is something I think a lot of people can get behind.

Rethinking “local”: foodscapes of empathy

There is a lot of talk and energy in alternative food circles directed at reducing *spatial* distance—making food systems more compact, reducing food miles, etc. This has not been without consequence. Cheap food has managed to adapt to these pressures—take Walmart’s highly publicized foray into the “local” and “organic” markets. Missed, however, and Walmart’s local food initiative is a perfect example of this, is a recognition that reduced spatial distance need not automatically result in the reduction of social distance. I am talking about the “Othering” that riddles conventional (and even some alternative) food networks, as evidenced by the fact that we don’t know, and perhaps even don’t care, that what we eat costs others greatly. As I have argued elsewhere, what we need is foodscapes that elicit feelings of care and empathy for those (often non-White, often non-middle class) “Others” that play a hand in feeding all of us (Carolan 2016, 2017b).

Social distances have grown so large in countries like the US that bringing people together for face-to-face encounters is becoming a real challenge. Forget about getting people around the same table to eat. Even meeting in the same room is harder than ever. We know, for example, that even if we were to get socially distant people together those with higher social status generally ignore those with less power (Kraus et al. 2012). This phenomenon has been observed in studies. Within a minute or two of meeting, the person with greater status begins to disengage from the conversation—less nodding and laughing—when paired with someone far “below” them on the social hierarchy. They are also more likely to take over the conversation, interrupt, and look past the individual they are paired with, perhaps looking for someone more “worthy” of their time (Gray and Kish-Gephart 2013).

Part of this empathy gap appears to be due to wealth. To put it plainly, the wealthy can hire help while those lacking material capital have to reinvest more in their social assets—the neighbor that watches one’s child occasionally, the friend that is good with cars, or the woman down the street who is handy with a plumber’s wrench. In other words, the “have’s” do not know socially distant “Others” because they do not have to. Meanwhile, the “have-nots” struggle to bridge this divide because they remain largely invisible in the eyes of those higher up the class hierarchy. And this distance looks to be growing, as evidenced by “geographic sorting”—the phenomena of people moving to communities composed of individuals similar to themselves in terms of how they look and think. For an example of this: the number of competitive districts in the US has decreased from 164 in 1997 to 72 in the recent 2016 elections, and no, this isn’t due only to gerrymandering (Cillizza 2017).

I have conducted extensive research looking into how exposure to alternative foodscapes—farmers’ markets, community-supported agriculture (CSA), cooperatives, etc.—shape people’s levels of empathy toward “Others” (see especially Carolan 2017a; 2017b). The findings are quite remarkable, and *promising*.

In one study, I interviewed a total of 119 eaters, *twice*—once prior to joining an alternative food activity and again two years later. I also conducted a phone survey, which yielded 106 responses, of randomly selected residents who did not belong to a CSA or a cooperative and who had not attended a farmers’ market in the prior year. This population represented eaters who get their food from more conventional sources—a type of “control” group. In certain ways this study had elements of an experiment: a control group and a test group of people who were interviewed prior to and after “exposure.” One more clarification about methodology is needed before proceeding. My CSA sample was actually two groups: (1) those exclusively involved in a drop-off CSA model, and (2) those participating in CSAs that offer a volunteer option. In the later model, eaters have the option of working off some of their membership by planting, weeding, harvesting, etc. Those doing the volunteering tend to be a diverse group: people who volunteer out of financial necessity; well-to-do retirees; those wanting to learn more about where their food comes from.

You will have to read the peer-reviewed article (Carolan 2017a) to feel the full punch of the argument and all its findings. My point in mentioning it here is to emphasize the fact that some of these spaces and the encounters they make possible—drop-off CSAs especially—were shown to make those involved more *empathetic* toward those socially distant from themselves; a finding that stands in contrast to conventional foodscapes and the encounters they engender, which arguably (and in some case *intentionally* [Carolan 2017b]) exacerbate the distance between eaters and the “Others” that populate our foodscapes.

Cheap food policies are not concerned with things like caring and empathy. Could you even imagine the Farm Bill making those phenomena priorities? Cheap food privileges things like yields, efficiency ratios (e.g., outputs per units of Input X), and profitability metrics, which is precisely the problem. I am not suggesting our food-based ills can be fixed by simply hugging it out. But the fact we allow cheap food policies to continue, I think, is a symptom of a large societal problem, which has a lot to do with the social distances and inequalities that plague the world today.

If people were paid what amounts to a livable wage they would not “need” cheap food. They could afford food from affording foodscapes. Cheap food is a substitute, and a damn poor one at that, for societal reforms that would benefit the 99 per cent, versus the 1 percent currently being enriched by cheap food and the cost-socialism it extols.

Note

- 1 This section is informed by Obudzinski (2016).

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