TLEDGE STUDIES IN FOOD, SOCIETY AND THE ENVIRONMENT

"...presents a comprehensive and compelling analysis of the forces naping current food and farming trajectories, the winners and losers in food system, the options available to those wanting to challenge and ultimately, to overhaul today's unsustainable global foodscape."

— Geoffrey Lawrence, University of Queensland, Australia

'A very readable romp through the breadth and depth of externalities generated by capitalism's demand for cheap food."

– Raj Patel, University of Texas at Austin, USA

Almost encyclopaedic in range yet envirely conversational in tone, this book strikes just the right note in exploring how fundamentally flawed our 'cheap food' system is. Set to become a food student's bible!"

— Colin Sage, University College Cork, Ireland

nought-provoking but accessible book critically examines the dominant food ne on its own terms, by seriously asking whether we can afford cheap food by exploring what exactly cheap food affords us. Detailing the numerous that our understanding of food has narrowed, such as its price per ounce, pination of nutrients, yield per acre, or calories, the book argues for a more stual view of food when debating its affordability. The first edition, published in 2011, was widely praised for its innovative approach and readability. This new edition the author brings all data and citations fully up to date, sed coverage is given to many topics including climate change, aquaculture, ancialization, BRICS countries, food-based social movements, gender and noic issues, critical public health and land succession. There is also greater cussion about successful cases of social change throughout all chapters, by

ncluding new text boxes that emphasize these more positive messages.

e author shows why today's global food system produces just the opposite hat it promises. The food produced under this regime is in fact exceedingly expensive. Many of these costs will be paid for in other ways or by future enerations and cheap food today may mean expensive food tomorrow. By ematically assessing these costs the book delves into issues related, but not nited, to international development, national security, healthcare, industrial production, organic farming, corporate responsibility, government subsidies, a aid and global commodity markets. It is shown that exploding the myth of eap food requires we have at our disposal a host of practices and policies.

chael Carolan is a Professor in the Department of Sociology and Associate Dean for Research and Graduate Affairs, College of Liberal Arts, Colorado to University, USA. He is the author of several books including The Sociology of Food and Agriculture (Routledge), Cheaponomics: The High Cost of Low Prices (Routledge) and No One Eats Alone: Food as a Social Enterprise.

AGRICULTURE AND FOOD / ENVIRONMENTAL ECONOMICS / SUSTAINABLE DEVELOPMENT





Cover image © iStock.com

Cover design by





14

ND EDITION

OF CHEAP FOOD



MICHAEL CAROLAN

earthscan from Routledge Second edition published 2018 by Routledge 2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge 711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2018 Michael Carolan

The right of Michael Carolan to be identified as author of this work has been asserted by him in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

First edition published by Earthscan 2011

British Library Cataloguing in Publication Data A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data
Names: Carolan, Michael S., author.
Title: The real cost of cheap food / Michael Carolan.
Description: Second edition. | Abingdon, Oxon; New York, NY:
Routledge, 2018, |
Series: Routledge studies in food, society and the environment |
Includes bibliographical references and index.
Identifiers: LCCN 2017035532| ISBN 9781138080744 (hardback) |
ISBN 9781138080768 (pbk.) | ISBN 9781315113234 (ebook)
Subjects: LCSH: Food supply-Social aspects. | Public health. |
Agriculture-Costs. | Agriculture-Environmental aspects.
Classification: LCC HD9000.5. C258 2018 | DDC 338.1/9-dc23
LC record available at https://lccn.loc.gov/2017035532

ISBN: 978-1-138-08074-4 (hbk) ISBN: 978-1-138-08076-8 (pbk) ISBN: 978-1-315-11323-4 (ebk)

Typeset in Sabon by Wearset Ltd, Boldon, Tyne and Wear

Contents

	Lists of figures List of tables List of boxes Preface to the second edition Acknowledgments			viii x xii xiv xvi
1	Introduction			1
2	Cheap food, globalization, and development			15
3	Cheap food and conflict			40
4	Cheap food, hunger, and obesity			63
5	Cheap meat			88
6	Cheap food and the environment .		ČS.	113
7	Cheap food but at what price?			141
8	Cheap food, community, and culture	2		163
9	Cheap food: who wins?			183
10	Making food affordable			204
	Index			230

Acknowledgments

Like the first edition, writing this book was a pleasure, in part because of those I was introduced to through the process. First: a tip of the hat (and big "Thanks!") to commissioning editor extraordinaire, Tim Hardwick. From reviewer of draft manuscripts to part-time research assistant, Tim has been indescribably helpful. I also benefited greatly from an extended network of colleagues, many of whom I consider "friend," who contributed bits here and there to this book. Those include, in no particular order: Geoffrey Lawrence, University of Queensland, Australia; Gyorgy Scrinis, University of Melbourne, Australia; Adrian Williams, Cranfield University, UK; Richard Bennett, University of Reading, UK; Corné van Dooren, Netherlands Nutrition Centre, The Netherlands; Peter Giovannini, Royal Botanic Gardens, Kew, UK; Phillip Baker, Australian National University, Australia; Luis Lassaletta, Utrecht University, The Netherlands; Gilles Billen, Pierre and Marie Curie University, France; Josette Garnier, French National Centre for Scientific Research, France; Martin Heller, University of Michigan, USA; and Colin Khoury, International Center for Tropical Agriculture, Colombia. More than a dozen people have now reviewed this book, if you count both editions. Thanks to you all. Only you (and Tim) know who you are! A quick thanks also to my parents, who taught me to think about food before I was thinking about much else.

Most important of all: Nora—thank you, thank you, THANK YOU. And our children: Elena and Joey—thank you too. You three feed me in ways you will never fully appreciate.

1 Introduction

It has been seven years between editions. The Real Cost of Cheap Food first appeared in 2011, on the heels of the Great Recession and during a time of near-record food prices according to the FAO's (Food and Agriculture Organization) food price index (see Table 1.1). This was also a period of record gas prices. Shortly before its publication, the famed food journalist and frequent New York Times contributor, Mark Bittman (2010), declared, "The era of cheap, abundant food is over." Two days later, the venerable magazine The Atlantic published an article titled "The End of Cheap Food?" (Fromson 2010). Headlines like this led a colleague to ask, just before the first edition came out, if the book was published ten years too late?

Hindsight is 20/20. In the years since the first edition, the issues covered in *The Real Cost of Cheap Food* have not gone away. If anything, they have become more pertinent as globalization and neoliberalism have strengthened the hand of transnational agribusiness.

What do I mean by cheap food? And why am I against it?

To begin, cheap food means exactly what you would think it might—rock-bottom retail-priced food. I can hear proponents of cheap food now: "What's wrong with that? Cheap food, in this sense, enhances wellbeing!"

Does it?

I have actually done considerable research on the subject of the relationships between conventional (cheap) food policy and prosperity (Carolan 2013). The findings do not fit the narratives we are being fed on the subject. Here is a taste of what I discovered—you'll have to read beyond this chapter if you want the full meal.

The Happy Planet Index (HPI) is a prosperity metric that takes into consideration a country's life expectancy at birth, general life satisfaction score, and ecological footprint. A high HPI score thus reflects a country with high life expectancy, high life satisfaction, and low ecological footprint. Figure 1.1 plots the relationship between HPI and average percentage of disposable household income spent on food (see Box 1.1). We are

Table 1.1 FAO Food Price Index, 1961–2016

Year	Nomina	ıl Price Index (non adjusted	d) Real Price Index (adjusted for inflation
	(2002–2	004 = 100)	uajustea for inflation
1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2016 2017 2018 2019 2010 2010 2011 2011 2011 2011 2011	33.2 32.8 34.6 36.3 36.6 35.0 36.6 35.0 36.6 38.4 41.0 44.3 60.0 86.2 92.0 79.5 79.0 87.9 98.0 109.1 106.6 93.8 89.1 91.9 83.1 82.4 85.0 95.9 101.1 107.2 105.5 110.3 125.3 131.1 120.3 108.6 93.2 91.1 94.6 89.6 97.7 112.7 118.0 127.2 161.4 201.4 160.3 188.0 229.9 213.3 201.8 164.0 160.6	1 1 1 1 1 1 1 1 1 1 1 1 1 1	131.7 128.0 137.4 142.2 144.5 138.2 135.7 130.8 129.9 128.3 130.1 128.8 150.5 177.4 170.5 145.5 133.9 128.2 128.1 129.7 126.5 114.8 111.9 118.1 107.8 93.0 87.6 92.8 98.4 100.4 98.7 101.1 97.1 101.3 105.3 113.7 111.3 105.6 92.6 92.4 101.0 96.2 98.1 105.0 106.8 112.7 34.6 55.7 32.8 50.7 69.1 58.8 58.5 52.0 13.2 18.9

Source: FAO 2017.

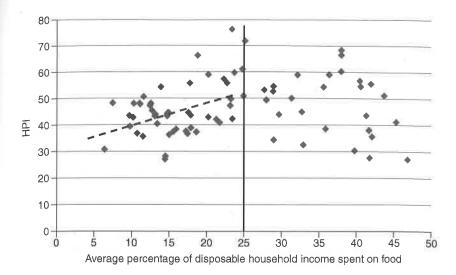


Figure 1.1 Relationship between HPI and average percentage of disposable household income spent on food.

Source: Adapted from Carolan 2013.

told that countries whose citizens spend the smallest share of their incomes on food also have the highest levels of prosperity, which I would expect to mean that they would have envious HPI scores. In fact, countries with the cheapest food report some of the *lowest* HPI numbers. There's nothing to be envious of in that.

Let us pull on this thread a little longer and see what else from the conventional food narrative comes apart. As you will read in further detail in later chapters, conventional agrifood policy largely does not discriminate between calories. So: *more* is almost always *better*. To investigate the wisdom of this practice empirically, I plotted the relationship between a country's daily average per capita consumption of oils, fats, and sugars and life satisfaction—Figure 1.2. (As we will discuss later, oils, fats, and sugars are exactly the foods that conventional practices and policies are best at making "cheap.") As the image illustrates, the consumption of oils, fats, and sugars is positively correlated to life satisfaction in the left half of the figure. It is hard to feel well-off if you are starved, even from foods deemed "unhealthy," though you do need some level of these elements to survive. However, at levels greater than roughly 900 calories per capita there is no positive bearing on life satisfaction. In fact, beyond this point the relationship turns slightly negative.

Now let us look at the relationship between daily average per capita consumption of oils, fats, and sugars and average percentage of disposable household income spent on food. We are doing this to help us better understand what we saw in Figure 1.1, where we are shown that really

4 Introduction

Box 1.1 Percent of disposable annual income spent on food—a figure worth celebrating?

Those of us in affluent nations spend less of our annual incomes today on food than any previous generation. The percentage of disposable income spent on food within the US has steadily decreased since 1947. Since 1970, the percentage of disposable income spent on all food in the US dropped from 13.9 to below 10 percent—the recent figure ranges anywhere between 6.7 and 9.9 percent, depending on who calculates it (see e.g., Barclay 2015; USDA 2016a). This decrease is even more remarkable given that more than half (50.1 percent) of what US consumers spend on food is spent eating away from home—30 years ago that figure was 34 percent and 50 years ago it was 25 percent (USDA 2016b). Let's not forget, however, that this is an aggregate figure. The less you make, the bigger your food spending will be relative to your income. In 2013, the lowest income bracket in the US spent roughly \$3,655 annually on food, or 36 percent of total income. Meanwhile, those in the highest income bracket were spending approximately \$11,000 annually on food—only 8 percent of their earnings.

For some points of international comparison: residents of the Philippines and Guatemala spend about 40 percent of their disposable income on food, whereas the French and Japanese spend about 14 percent (Barclay 2015). To quote a USDA agriculture economist, after having presented this data to a reporter during an interview: "Food is still a good bargain for the American consumer" (ibid.).

We are not just consumers, however. We are also *citizens*, who have to live with, and pay for—sometimes even with our lives—the costs of cheap food. To quote Diep Tran (2017), a journalist and someone who comes from a family of restaurant owners, riling against cheap food lists that food critics like to pull together, especially those involving food from immigrant restaurateurs:

This view of people of color as sources of "cheap" labor bleeds into our restaurant culture: Immigrant food is often expected to be cheap, because, implicitly, the labor that produces it is expected to be cheap, because that labor has historically been cheap. And so pulling together a "cheap eats" list rather than, say, an "affordable eats" list both invokes that history and reinforces it by prioritizing price at the expense of labor.

That is what this book is about: all those *costs* we ignore when in search of cheap eats.

cheap food is actually negatively associated with wellbeing. As Figure 1.3 illustrates, as oils, fats, and sugars become cheaper—the very calories that become cheapest as food systems "modernize"—we tend to consume them at greater levels.

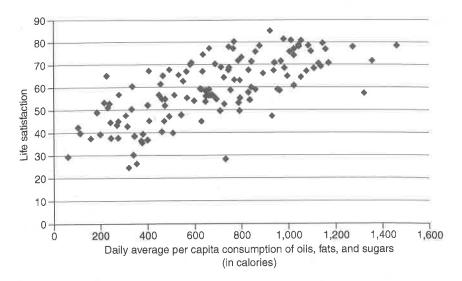


Figure 1.2 Relationship between daily average per capita consumption of oils, fats, and sugars (in calories) and life satisfaction.

Source: Carolan 2013.

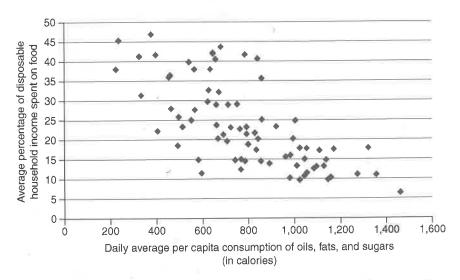


Figure 1.3 Relationship between daily average per capita consumption of oils, fats, and sugars (in calories) and average percentage of disposable household income spent on food (\$15,000 or greater GDP per capita).

Source: Carolan 2013.

A recently published analysis supports this point that conventional food policy really only makes certain foods cheap. Looking at ten different countries, the authors concluded that healthy food in all sites studied cost more than less healthy foods. In the authors' words, "This meta-analysis provides the best evidence until today of price differences of healthier vs. less healthy foods/diet patterns, highlighting the challenges and opportunities for reducing financial barriers to healthy eating" (Rao et al. 2013). Most of our metrics used to identify which countries have the "cheapest" food are actually measuring cheap calories. We ought to know better, as cheap calories do not make for a healthy, sustainable, well-off, and happy foodscape.

Cheap is not the same as inexpensive. This leads me to the book's thesis: we cannot afford cheap food. Cheapness is part of the problem, rather than something to be praised and replicated around the world—an unsustainable example of market and social failures of the first order. We need inexpensive food, food we can afford, and food that affords us certain capabilities (see Box 1.2). Changing the debate over food from being about cheapness to about affordability allows us to seriously ask questions such as "Can we afford cheap food?" and "What exactly does cheap food afford us?"

Cheap food also refers to the de-contextualization of what we eat. The fact that cheap food costs us dearly, and yet those costs are not clear to us, speaks to just how invisible our foodscapes remain to all of us. At one level, then, we can think about cheap food as a euphemism for myopic economic accounting practices, exemplified by the thinking that the price of a food item at the grocery store reflects its full cost. This is the most obvious angle from which to critique cheap food. Critical food scholars, food and environmental activists, and ecological economists have been arguing for decades about how our practices of food production and consumption rest upon the market (and us) turning a blind eye to many of its costs (see, for example, Carolan 2013; Tegtmeier and Duffy 2004).

Yet the market does not a world make. To say that cheap food is only the result of externalizing costs, minimizes—dare I say, cheapens—our understanding of the world. It assumes that there is a market solution to the problems that compel me to write this book. It assumes that if only we could assign the right price to those things currently externalized, we will solve the problem of cheap food. To call a cost "externalized" also hides, through mystifying econometric language, the fact that certain people are paying for those costs now. And what, precisely, are these costs external to? I worry we become less interested in costs when tagged with this adjunctive. That is typically how we react to things said to be external. We build homes to protect ourselves from the elements, and to make sure that they remain, outside. The goal: to create a safe place to live, eat, and sleep.

When it comes to food, we are paying those costs now. All of us, though some are certainly paying more dearly than others.

Box 1.2 Do people have a right to food?

Olivier De Schutter served as the United Nations Special Rapporteur on the right to food from 2008 to 2014. (For those who do not speak French, the term rapporteur is a French-derived word for an investigator who reports to a deliberative body.) In that role, De Schutter helped governments and the United Nations General Assembly identify how to best address issues related to food insecurity. He was (and still is) a vocal proponent of the idea that humans have a fundamental right to food. The following is a short except from an interview with *The Nation* where he speaks on the subject.

Question: Why hasn't the concept of the right to food gained more traction here in the United States?

Olivier De Schutter: It's extremely difficult to get the concept of the right to food across in the United States because of your constitutional tradition that sees human rights as "negative" rights-rights against government—not "positive" rights that can be used to oblige government to take action to secure people's livelihoods. So embedded is this in your constitutional culture that the concept that social and economic rights are real rights is generally not accepted. While human rights to health, education, social security or food are guaranteed to a certain extent through legislation, they are still seen as suspect. Indeed, the protective role of government is denounced as paternalistic and even, following Hayek, as paving the way for totalitarianism: such rights could empower courts against the executive in ways perceived as undemocratic.

I disagree. Real freedom can be achieved only when individuals are shielded against the most serious exclusions caused by the market. Rights have been invented precisely because majorities can act abusively, failing to respect the needs of minorities and the underprivileged.

Source: Adopted from Lappe 2011.

Since I am on the topic of defining my terms, here is another one: foodscape. This is a change from the first edition, where the more familiar food system was used. I have moved away from using the more familiar "food system" in recent years, opting instead for the term "foodscape." The former, I believe, is too narrow for what I have in mind when talking about the subject, often reducing the life of food to a commodity chainproducers, processors, distributors, retailers, and consumers. Food is a lot more complex than that, involving questions of power, culture, relationships, feelings, citizenship, politics, and more. A "-scape" refers to the fluid, irregular, and contested networks, practices, and material objects that help give meaning and shape to our world (Appadurai 1990). To talk about foodscapes means applying this expansive gaze to questions related to what and how we eat and why we eat what we do (Carolan 2017).

It is not easy to think about food in this way, especially given how we have been socialized to see food narrowly. We tend to reduce "it"—that's another problem, we think about food as an it—to something like its calories or ounces per dollar, Nutrition Facts, or fat content. (Who cares about whether a food affords capabilities, does it have trans-fats?) To nudge students in another direction, I will ask them the nebulous question, "When is food?" The question plays on something Yrjö Engeström (1990) asked almost 30 years ago. In a paper entitled "When is a tool?," Engeström illustrates how a tool is not a thing with fixed attributes, but an artifact that becomes a tool in practice. A tool, therefore, emerges in situ; it is an effect of practice, cultural conventions, and embodied knowledge and sentiments (Carolan 2011). Asking, "What is food?," assumes too much, viewing food as a thing, a noun-an it. But as Harris (1986: 13) reminds us, "We can eat and digest everything from rancid mammary gland secretions to fungi to rocks (or cheese, mushrooms, and salt if you prefer euphemisms)." The question "When is food?" situates food as part of, rather than apart from, this ever-fluid, always-contested context—a -scape.

And another term: affordability. I am thinking here of the term's original meaning, which originates from the Old English word geforthian: to carry out. Affordability, following this usage, speaks to an artifact's enabling ability. Just like the sun affords plants the energy to grow, I want a foodscape that affords people and nations the capabilities to develop and enhance their overall wellbeing. Thinking of food in this manner, as something that affords society and individuals certain (in-) capabilities, allows for a more honest discussion to take place about what we want from food and whether the current system can achieve those ends. Rather than affording those most in need of greater food security and sovereignty, cheap food has had just the opposite effect.

Cheap food disables. We need food that enables.

The audience

When you write you always need to think about your audience. When putting together this book—now for the second time—I had in mind an international audience. For this reason, I tried not to limit its focus to any one country in order to increase its appeal to, and impact upon, the global community. That said, certain chapters do take a long hard look at the US, in terms of its policies and practices. This simply cannot be avoided given its pivotal role in the world system. Thus, when focus is on the US, the intent is not to make the discussion only about the food policies and practices of this country, but to shine light on why today's food system looks like it does in terms of creating global winners and losers. The reader can be assured that the trip ahead will take them around the world.

I also imagined my students as well as the thousands of people who I either formally interview or informally speak to annually about food. The

writing style, the content covered, and the examples given have all been informed by my years studying and talking about foodscapes. This experience ranges from time in the classroom to laboring in the field conducting research, advising policymakers and politicians, and while out on the lecture circuit talking to people about how, what, and why they eat. Since we are all students in some way, I hope the end product resonates both inside and outside the academy.

I also hope that my vocabulary, by framing the argument around the *costs* and *affordability* of our food system, is something that proponents of today's conventional foodscapes can relate to. I know proponents and critics of cheap food all share an interest in making people better off, though I admit the question of how benefits gets distributed is tricky and without consensus. When writing this book, I have tried to imagine how someone sympathetic to more conventional foodscapes might be persuaded to revisit their convictions. Those already critical of how food is produced, traded, processed, transported, and consumed will find in this book plenty more reasons to feel as they do. I am also deeply interested in talking to those who hold out hope for the dominant foodscape, warts and all. This book, I hope, will cause them to re-evaluate their mental models that currently lead them to the conclusion that cheap is synonymous with inexpensive. It most certainly is not.

The dominant food system socializes many of its costs, while simultaneously privatizing the majority of its benefits. It perpetuates a variant of socialism, actually—cost socialism. This is not only egregiously unjust but makes for bad policy when the goal is to make foodscapes that afford people, households, and entire countries the ability to prosper.

Chapter overview

Chapter 2 focuses upon the idea that affordable food is food that affords people the capabilities to pull themselves out of poverty and develop along trajectories of their own choosing. Specifically, the chapter examines cheap food through the lens of international development. In many less-affluent countries, poverty is concentrated in rural areas. A popular argument in some development circles is that rural poverty in poorer nations can be alleviated by increasing the productivity—always with high-priced technology and inputs-of the world's small-scale farmers. This is most easily achieved by getting rid of them and having their land absorbed by largescale producers (see, for example, Paarlberg 2008; Pinstrup-Andersen 2002; Zhang 2015). This strategy has been a disaster on multiple levels, for the world's poor but also for those in affluent countries. Other subjects discussed in this chapter include the WTO (World Trade Organization), the rise and impact of BRICS (Brazil, Russia, India, China, and South Africa, who have collectively had some success exerting their will against the WTO), food dependency as a geopolitical strategy for countries like the US, and the politics of food aid.

long as nutritionism informs food policy, we will never solve the problem

of global malnourishment.

Chapter 5 examines cheap meat. Livestock-based food production causes at least one-fifth of global greenhouse gas emissions (more if you include indirect emissions through deforestation and crop production), is a major land user and source of water pollution by nutrient overabundance, and it competes with biodiversity and promotes species extinctions. According to a recently published study in the prestigious Proceedings of the National Academy of Sciences, industrial beef production is around ten times more damaging to the environment than any other form of livestock (Eshel et al. 2014). For example, the authors find that industrial beef cattle need 28 times more land and 11 times more irrigation water than pork, poultry, eggs, or dairy (ibid.). If current trends hold, we are going to have to produce twice as much animal protein by 2050 just to keep up with demand. This means livestock will be consuming basic food to feed the equivalent of four billion people. (Four billion, as an aside, was the world's population in the early 1970s.) To be sure, animal agriculture has its place in an affordable food system. There is a lot of land out there where little other than animal protein can be sustainably raised. Yet, I do not see how much longer we can afford the expense of meat that is produced as cheaply as we produce it today. Its health effects are wide ranging, for eaters, those working in the livestock industry, and for those living near large-scale animal facilities. Then there are its impacts upon international food security, the environment (water, biodiversity, climate change, etc.), and public health more generally (zoonotic diseases, which are viruses transmitted from animals to people, are an especially worrisome cost). In short, the affordability of cheap meat is placed in serious doubt in this chapter. This chapter is not exclusively about terrestrial livestock, however. Space is also devoted to discussing the costs of cheap aquaculture-teaser: did you know cheap shrimp is linked to slavery?!

Chapter 6 focuses on some of the ecological costs associated with producing, processing, shipping, packaging, marketing, and consuming cheap food. The concept of "food miles" is discussed, and extensively critiqued. The concept of the life cycle analyses (LCAs), as they relate to components of our food system, is also critically reviewed. This is followed by a discussion of water used (and abused) as it relates to food, where concepts like virtual water and water food-print are introduced. The subject of food waste is then reviewed. Lastly, cheap food's relationship to, as cause and

consequence of, climate change is examined.

In Chapter 7, the focus is on the question of how we go about putting a price on food and our ecological base. This includes discussions about valuation methods—like "willingness to pay" and the "travel cost method"—and their biases and limitations. While doing this, attention is also directed at the value of ecosystem services and how cheap food diminishes those natural stocks. Another important subject tackled in this chapter is the true cost of pesticides.

Chapter 3 examines cheap food's links, as both a cause and consequence of, conflict. If you were to overlay the map created by the United Nations that marks the world's hunger hot spots and its map marking extreme conflict and violence around the world they are close to an identical match (Gustafson 2015). Disruption also begets more disruption ... and more hunger. Millions of people, many of whom are children, become refugees in those situations when hunger and violence hotspots converge. Without aid and support, whether by domestic agencies or international bodies, a refugee crisis can lead to further instability, hunger, and violence in the region-that said, food aid is not a panacea either, as I discuss. Finally, terrorism: cheap food has links to that too. When a parent's children are starving they may do things for food they would never dream of doing otherwise. Knowing this, terrorist groups have exploited these needs in their recruitment tactics (Adebayo et al. 2016). This gives new meaning to the slogan "food not bombs." The relationship between food security and national security is only beginning to be explored, though we have known of this link for quite some time-after all, the theme of the 1999 World Food Prize was "Food, agriculture, and national security in a globalized world." The chapter concludes by looking at what has come to be known as the global land grab: what is it?, why is it happening?, and who wins and loses because of it?

Chapter 4 explores the links between cheap food, health, and obesity. Obesity rates around the world have never been higher. In the US, that figure is 36.5 percent (CDC 2016). A lot of people assume the US is the most obese nation-after all, it is the home of such "delicacies" as supersized fries, gallon-sized fountain drinks (visit a convenience store in the Midwest or South if you don't know what I'm talking about), cheesestuffed pizza crust, and the deep-fried Twinkie. It is not. Pacific Island nations top the list, with approximately four out of five of their citizens being overweight or obese-American Samoa has an obesity rate of 75 percent! Next on the list are a handful of Middle Eastern countries-Kuwait, Saudi Arabia, Egypt, Jordan, United Arab Emirates, and Qatar, in that order. Mexico also has higher obesity rates than what is found in the US (e.g., Swanson 2015; WHO 2015). This is not to excuse what is going on in the US. Residents of this country have seen their life expectancy rate drop in 2015, in part thanks to cheap food. In 2015, those in the US were expected to live an average of 78.8 years, down slightly from 78.9 years in 2014. When reading about all these very real costs, one cannot help but wonder if the "cheapness" of cheap food is not partially a product of cost shifting from the food sector to the healthcare sector. Beyond the issue of over-nutrition, this chapter also looks at how we think about issues of food and nutrition more generally. Cheap food rests on a highly reductionist understanding of these phenomena, leading to practices and policies that center on elemental components such as calories, protein, and vitamins—what has been called the ideology of nutritionism (Scrinis 2013). As

References

Chapter 8 examines the costs of cheap food policies to communities and culture. I examine the negative impact that industrial large-scale farmers have had upon rural communities. Also discussed are the links between biological monocultures and cultural monocultures, and how cheap food policies increase the likelihood of both. The chapter then turns to the subject of monocultures of tastes. This allows me to talk about how today's foodscape narrows our collective understandings of (and tastes for) "food" itself; a trend with clear negative implications to both cultural and biological diversity.

Who actually benefits from cheap food? Having detailed the various ways in which cheap food is predicated upon a socialization of costs, Chapter 9 highlights the winners of these policies and practices. The real winners of cheap food can be found at the very "top" and the "middle" of the food system hourglass, namely, large, transnational corporations—at the input, processing, and (especially) retail sectors of the conventional foodscape. The chapter begins discussing the food system hourglass, which I show to be hanging by a thread—metaphors to describe the extensive, and disabling, market concentrations that pervade the dominant value chain. While eaters and farmers are shown to be big underdogs, the input, manufacturing, and retail (especially the large ones—i.e., Walmart) sectors are shown to be the real winners of cheap food policies. The chapter ends discussing what is known as the financialization of food. In doing this, I highlight another winner in all of this, namely, the speculative investor and investment firm.

Chapter 10 lays out suggestions on how to make food more affordable. Readers will find the usual fare discussed towards this end. Farmers' markets, community-supported agriculture, and community gardens are all pieces to the puzzle of affordable food. Yet, if I am to follow my own advice and contextualize, really contextualize, food, I must also recognize the need to go beyond the usual suggestions if we hope to ever turn the juggernaut of cheap food around. For instance, we can preach about the value-and affording nature of-polycultures all we want. (Polycultures refer to diverse, agro-ecological farms, versus the monocultures of cheap food.) But until those polycultures extend beyond the farm gate we are preaching a pipedream. In other words, eaters and farmers both need to change. Attention is thus also focused on the tricky issue of behavioral change, and importantly behavioral changes that feel right and not forced. Other topics covered include biofuels, land succession, and land availability for beginning farmers, the practices and discourses of food sovereignty and food security (including a discussion of La Via Campesina), and how we might be able to inject empathy back into our foodscapes.

Here is to making food inexpensive and healthful and to enacting foodscapes that are affordable. Adebayo, O., K. Olagunju, S. Kabir, and O. Adeyemi. 2016. Social crisis, terrorism and food poverty dynamics: Evidence from Northern Nigeria. *International Journal of Economics and Financial Issues*, 6(4), http://search.proquest.com/openview/b4c2a43e6002dde8c241d3d113885d0c/1?pq-origsite=gscholar&cbl=816338. Appadurai, A. 1990. Disjuncture and difference in the global cultural economy.

Public Culture, 2(2): 1-24.

Barclay, E. 2015. Your grandparents spent more of their money on food than you do, NPR March 2, www.npr.org/sections/thesalt/2015/03/02/389578089/your-grandparents-spent-more-of-their-money-on-food-than-you-do.

Bittman, Mark. 2010. Seeing a time (soon) when we'll all be dieting, New York Times August 24, www.nytimes.com/2010/08/25/books/25book.html.

Carolan, Michael. 2011. Embodied Food Politics. Burlington, VT, Ashgate.

Carolan, Michael. 2013. Reclaiming Food Security. New York, Routledge.

Carolan, Michael. 2017. No One Eats Alone: Food as a Social Enterprise. Washington, DC, Island Press.

CDC. 2016. Adult obesity facts, Center for Disease Control, Atlanta, GA, September 1, www.cdc.gov/obesity/data/adult.html.

Engeström, Y. 1990. When is a tool? Multiple meanings of artifacts in human activity, in Y. Engeström (ed.) Learning, Working and Imagining: Twelve Studies in Activity Theory, Orienta-Konsultit, Helsinki, pp. 23–35.

Eshel, G., A. Shepon, T. Makov, and R. Milo. 2014. Land, irrigation water, greenhouse gas, and reactive nitrogen burdens of meat, eggs, and dairy production in the United States. *Proceedings of the National Academy of Sciences*, 111(33): 11996–12001.

FAO. 2017. FAO Food Price Index, Food and Agriculture Organization of the United Nations, www.fao.org/worldfoodsituation/foodpricesindex/en/.

Fromson, D. 2010. The end of cheap food? *The Atlantic* August 26, www.the atlantic.com/health/archive/2010/08/the-end-of-cheap-food/62112/.

Gustafson, E. 2015. The danger behind processed foods is more serious than we ever imagined, *Refinery* April 22, www.refinery29.com/how-hunger-is-connected-to-terrorism.

Harris, M. 1986. Good to Eat: Riddles of Food and Culture. Allen and Unwin, London.

Kulkarni, S., A. Levin-Rector, M. Ezzati, and C. Murray. 2011. Falling behind: Life expectancy in US counties from 2000 to 2007 in an international context. *Population Health Metrics*, 9(1): 1–12.

Lappe, A. 2011. Who says food is a human right? *The Nation* September 14, www. thenation.com/article/who-says-food-human-right/.

Paarlberg, R. 2008. Starved for Science: How Biotechnology is Being Kept Out of Africa. Cambridge, MA: Harvard University Press.

Pinstrup-Andersen, P. 2002. Food and agricultural policy for a globalizing world: Preparing for the future. *American Journal of Agricultural Economics*, 84: 1201–1214.

Rao, M., A. Afshin, G. Singh, and D. Mozaffarian. 2013. Do healthier foods and diet patterns cost more than less healthy options? A systematic review and meta-analysis. BMJ Open, 3(12): e004277.
Scrinis, G. 2013. Nutritionism: The Science and Politics of Dietary Advice. New

York: Columbia University Press.

14 Introduction

- Swanson, A. 2015. The U.S. isn't the fattest country in the world—But it's close, Washington Post April 22, www.washingtonpost.com/news/wonk/wp/2015/04/22/ youll-never-guess-the-worlds-fattest-country-and-no-its-not-the-u-s/?utm_ term=.8f9c4f6e22e0.
- Tegtmeier, E. M. and M. D. Duffy. 2004. External costs of agricultural productivity in the United States. *International Journal of Agricultural Sustainability*, 2: 1–20.
- Tran, D. 2017. Cheap eats, cheap labor: The hidden human costs of those lists, NPR February 12, www.npr.org/sections/thesalt/2017/02/12/512905725/cheap-tesa-cheap-labor-the-hidden-human-costs-of-those-lists.

USDA. 2016a. Americans' budget shares devoted to food have flattened in recent years, United State Department of Agriculture, www.ers.usda.gov/data-products/

USDA. 2016b. U.S. food-away-from-home sales topped food-at-home sales in 2014, United State Department of Agriculture, www.ers.usda.gov/data-products/

WHO. 2015. World map of obesity, World Health Organization, Geneva, Switzerland, www.worldobesity.org/resources/world-map-obesity/.

Zhang, Q. (ed.). 2015. Precision Agriculture Technology for Crop Farming. Boca Raton, FL: CRC Press.

2 Cheap food, globalization, and development

Once I went to a house where a farmer took his life by drinking a toxic chemical because of his uncontrollable debts. I could do nothing but listen to the howling of his wife. If you were me how would you feel? ... I believe the situation of farmers in many other countries is similar. We have in common the problems of dumping, import surges, lack of government budgets ... I have been so worried watching TV and hearing the news that starvation is prevalent in many less developed countries, although the international price of grain is so cheap.

(Cited in Rosset 2006: xiii; emphasis in original)

These words come from a pamphlet, distributed on September 10, 2003 at the WTO Ministerial Meeting in Cancun, Mexico. Its author, Lee Kyung Hae—a South Korean farmer, founder of South Korean farmers' association, ardent WTO critic, and inspiration to individuals around the world—is now dead. He killed himself later that day. A sign bearing the slogan "WTO Kills Farmers" in one hand, Lee thrust a red penknife into his chest while standing on top of a police barricade. Within a matter of days tens of thousands of smallholder farmers from all around the world—from Bangladesh to Chile, South Africa, and Mexico—marched in memory of Lee and to protest the dominant foodscape. Heard among their chants of solidarity was one poignant phrase: "We are Lee" (Patel 2009: 35).

Some 15 years have passed, and yet the story described in Lee's pamphlet parallels the pain felt hundreds of thousands of times over among farm families around the world. Nearly 300,000 farmers have committed suicide in India over the last 20 years, usually by drinking pesticides (mixing it with grape juice appears a common delivery method) or by hanging themselves. The Maharashtra Indian state is often in the news as it has the highest figures—60,000 suicides over the last two decades. (Rural suicide rates are also much higher in affluent nations, like the US—a point I'll come back to in Chapter 8.) The suicide rate among Indian farmers is close to 50 percent higher than the national average. A survey from 2011 estimated that India lost 41 farmers daily from suicide (Umar 2015). Why this is happening is complicated, as you would expect. Droughts and crop