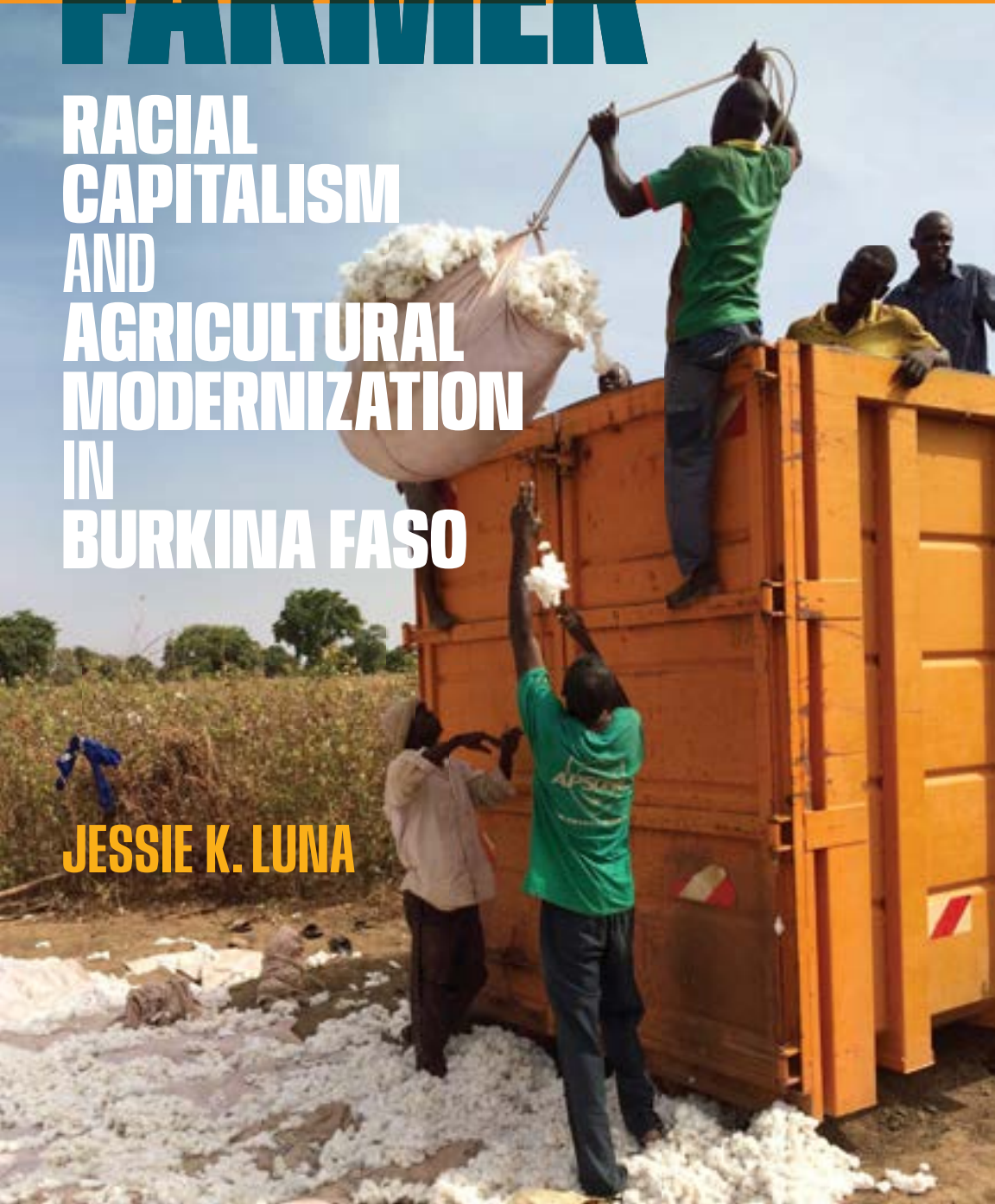


THE UPRIGHT FARMER

**RACIAL
CAPITALISM
AND
AGRICULTURAL
MODERNIZATION
IN
BURKINA FASO**

JESSIE K. LUNA



**THE
UPRIGHT
FARMER**



BUY

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*Racial Capitalism and Agricultural
Modernization in Burkina Faso*

JESSIE K. LUNA

DUKE

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Cover art: Men loading a cotton container on the outskirts of Dougoumato. Photograph by the author.

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PREFACE

When I was a Peace Corps volunteer in southeastern Mali in 2008, I witnessed half a village fall into debt from cotton farming at the height of the global food crisis. Some farmers sold motorcycles, others sold their corn, and still others fled town to escape debt repayment. My neighbor at the time, a perpetually cheery man named Namongo, disappeared, leaving his two wives, Mawa and Baba, behind. The town's beloved balafon player, Tieba, who had animated Friday night dance parties with a cigarette dangling from his lips, also disappeared, probably to work in Côte d'Ivoire to escape the long tendrils of debt repayment.

Farmers shrugged and told me that's just what happened with cotton. As a middle-class, White, twenty-four-year old American woman unaccustomed to the lived realities of global injustice, I was shocked. I had spent an entire year farming cotton with these folks—exhausting, back- and hamstring-breaking labor in one of the hottest climates on the planet—only to see them *owe money* at the end of it. I had walked through parched fields as farmers coaxed along their tired soil and anxiously scanned the sky for signs of rain. The history of farming in many parts of the world is filled with ugly stories of debt, displacement, and dispossession. Yet these histories are not simply explained away as “that’s just how farming is.” These histories have played out in specific ways shaped by intersecting webs of colonialism, capitalism, racism, and ecological rifts.

The extended hardship of West African cotton farmers felt unique, tied to history in messy ways that I didn't yet understand. Here were Black farmers toiling in cotton fields, picking cotton for weeks on end to load it onto trucks that would head up the westward hills to the city, where the cotton would get shipped overseas, winding up somewhere as clothes for wealthier folks in the Global North. Perhaps their cotton would show up on the Target racks near my hometown. Meanwhile, the farmers remained among the poorest people on the planet. They were struggling

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with changing rainfall patterns and the impacts of climate change, despite the fact that they had never contributed greenhouse gas emissions. I spent two years stumbling over the awkwardness, the discomfort, of trying to make sense of White people in Africa coming to “help” while patterns of wealth and labor remained eerily similar to historical patterns of exploitation under slavery and colonialism.

Near the community I lived in, I regularly rode my bike through a gap in a crumbling fortified wall called the “Tata,” a relic of African resistance to French colonizers, now with a billboard for Fanta orange soda thrusting from its ruins. A young man in the village often wore a tattered T-shirt with a picture of the rapper 50 Cent and the words “Get rich or die trying” printed on it in block letters. Here was a T-shirt whose threads of cotton had been grown perhaps a decade prior, shipped around the world and sold multiple times over, with both its material substance and imagery threading together histories of capitalist economics, racial injustice and response, and imaginaries of wealth. I couldn’t help but wonder: *Who* will get rich in all of this, *who* will die trying, and, moreover, *why* is this such a universal standard of aspiration?

The research for this book was motivated by these basic dilemmas. I conducted fieldwork for this book about 150 miles away from where I served as a Peace Corps volunteer, in southwest Burkina Faso. Cotton farmers there struggle with similar issues: low incomes coupled with increasing needs for money to pay for goods and school fees, changing climatic patterns and erratic rainfall, low soil fertility after nearly a century of cash-cropping cotton for export, dramatic social change, and issues of chronic debt and its devastating social consequences.

Burkinabè cotton farmers have been at the forefront of adopting new agricultural technologies like pesticides and fertilizers that are expanding exponentially across African farms. Burkina Faso was the first West African country to commercialize genetically modified (GM) crops (with cotton in 2008), and the first country on the African continent to do so with large numbers of smallholder farmers. Agricultural technologies and export-oriented production—core elements of agricultural modernization—are promoted by most major international development actors, banks, and governments as *the* answer to helping African farmers escape poverty. But is this really the answer? For whom or what is it the answer? At the most basic level, my research has sought to understand whether these technologies would help farmers get rich or leave them to die trying. And if the consequences—and collateral costs—were harmful, why might farmers keep buying the technologies anyway?

ACKNOWLEDGMENTS

There's a saying in academia that finishing a book is like having a baby. I would like to respectfully dissent. I have birthed and raised two human babies, all while this book has been (slowly) gestating. Unlike human babies, however, books do not have a life force of their own. Once started, books don't just happen to you. Writing this book required a continual will to move forward, pushing uphill against self-doubt, academic publishing pressures that reward articles, and endless competing demands for my time (including from those two human babies, who weren't so easily ignored for weeks or months on end!).

Yet, like a child, a book is also a collective production—the result of a long journey of dialogue and exchange with others. Across the ten-year journey of this project, innumerable people have played key roles in making this book possible.

Many academic advisors and mentors have guided my path since this project began at the University of Colorado Boulder. Few deserve more effusive praise than my advisor at Boulder, Jill Harrison. Jill was and remains a mentor without parallel: rigorous, incisive, interdisciplinary, inquisitive, and willing to call out mushy thinking and writing—yet always generous and filled with kindness, humor, and respect. I have sought to live up in some small part to the model that she sets, as a scholar and as a human.

Other academic advisors, teachers, and fellow students at Boulder shaped my thinking and pushed this work forward in its early years: Liam Downey, Lori Hunter, Emily Yeh, Mara Goldman, Mathieu Desan, Sanyu Mojola, Joe Bryan, and Christina Sue. My cohort mate, Emily Bacon, was my most reliable friend and cheerleader, and geography graduate students like Joel Correia and Katie Clifford helped me pursue the rich world of human geography.

I was fortunate to receive generous funding for the early research portion of this work. Fieldwork was supported by a 2016 Fulbright Student

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fellowship to Burkina Faso, a National Science Foundation Doctoral Dissertation Research Improvement grant (Grant 1602495), and a 2016 CU Boulder Dean's Grant. I was also supported by the American Association of University Women's Dissertation Fellowship in 2017.

As I started this journey, some of the giants of West African cotton scholarship—Bill Moseley, Brian Dowd-Uribe, and Leslie Gray—kindly answered e-mails from a young graduate student, met me at conferences, and offered me guidance as I began my fieldwork. I feel honored to contribute to their distinguished scholarship and take part in such a supportive field of scholars.

In Burkina Faso, I serendipitously crossed paths with my former Peace Corps director, Mike Simsik. Mike generously opened innumerable doors for me, as did the team at the Four-Country Cotton Partnership, the International Fertilizer Development Center, and folks at the US embassy. Professor Gabin Korbéogo at the University of Ouagadougou was an extraordinary host, generous in responding to an e-mail from a stranger. Gabin provided continuous support and thoughtful comments throughout my fieldwork. He helped me find two intrepid research assistants, Ines Rouamba and Abdoulaye Sawadogo. Ynes gave thoughtful input during her stints in Kongolekan, and Abdoulaye accompanied me for bigger chunks of fieldwork. We drank our hot Nescafé at 5 AM, rode hundreds of miles on his motorbike, learned how to use cow plows, ate many late-night meals in Houndé, and filled notebooks with fieldnotes. I am a more thoughtful sociologist following our engaged debates as we sought to make sense of the world that we were observing through our distinct positionalities and worldviews. Transcriptions by Huguette Tyenou, Seydou Sawadogo, Yawa Fahouzia, and Habib Cissé made my data analysis infinitely easier.

Many host families opened their homes to me. Ben Traoré, a friend from my master's program in Switzerland, generously asked his family to host me. Joseph helped me touch down, and the Bobo family became my small oasis. Lili, Soumaila, Ami, *et les petits—merci pour ce refuge*. In Ouaga, thanks to Monica Blanc-Gomez and the Veenem crew and my fellow Fulbrighters Stewart King and Jean Ouedraogo, who provided me with a landing place. In Houndé, Ousséni Coulibaly provided a generous welcome and many warm conversations.

There were many other Burkinabè who let me into their lives during this research. In Houndé, the Sofitex team welcomed me into the family; I hope they understand that my critiques in this book, such as those in chapter 5, are not aimed at them as individuals but at the structures they

are working within. These men are warm-hearted, generous people doing their best in a difficult system. In Kongolekan and Dougoumato, Paul, Abdoulaye, Yezouma, the big Badoum family, Suzanne, and Joseph and Ali Warahoun offered deep hospitality. Many other men and women fed me, taught me how to farm, and patiently answered my endless, pesky questions. I also want to acknowledge the life of Dramane Donsah, a farmer who died during my fieldwork in a motorcycle accident, and Paul Badoum, who died a few years later. *Ala k'aw si yorow suma.*

Although I conducted the fieldwork in 2016, the writing of this book came much later. My department and colleagues at Colorado State University have provided me a tremendous home base and community. Thanks especially to Stephanie Malin, Josh Sbicca, Lynn Hempel, Laura Reynolds, Tara Opsal, Leisl Carr Childers, Mike Childers, Elissa Braunstein, Michael Carolan, Ann Claycomb, and the College of Liberal Arts for their support near the end. Lea Bayles helped me believe in myself and turn my work into play. Thanks also to the many women who cared for my children while I sat in my office, most importantly Sheila Smith.

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I enjoyed vigorous discussions at the “Pesticide Politics in Africa” conference in Arusha, Tanzania, in 2019, and the follow-up in Bouaké, Côte d’Ivoire, in 2021. Pablo Lapegna and colleagues provided crucial input at the University of Georgia’s “Dirty Histories” workshop, as did folks at the “Decolonizing Knowledge in Africa” conference in Bamako, Mali, in 2024. For reading through the final version of the book, I am grateful to Gabin Korbéogo, Gabriel Dzodom, and my two peer reviewers, who offered insightful feedback.

Some small sections of this book were previously published in article form, and I thank the publishers, editors, and reviewers of these pieces for

helping me sharpen my thinking around some of the ideas presented here. Although greatly reworked, small parts of chapters 3 and 4 were published in *Environmental Sociology* (2018). Some material in chapters 2 and 4 was published in *Agriculture and Human Values* (2020). An early framework for chapter 5 and tiny snippets of chapter 1 were published in the *Journal of Peasant Studies* (2019). In chapter 6 and the conclusion, I draw from an article published in the *Journal of Agrarian Change* (2020). Part of chapter 6 was published in collaboration with Brian Dowd-Urbe in *World Development* (2020). I draw on our writing and thinking with his permission. Strange as it now seems, I want to clarify that I did *not* use AI in the creation of this book.

In the final stages of turning this project into a book, Anitra Grisales gave incisive feedback on an early draft, helping me pull the thread together. Elizabeth Ault at Duke University Press has been a patient editor, waiting for me to get through a pandemic, tenure, and the early years of child-raising. I'm grateful for her continued faith in the project and prodding to sharpen my argument.

My mom and dad taught me how to set my eyes on a goal and take the steps needed to achieve it. Thank you for supporting me all these years, across oceans and time differences and bad Skype signals. Thanks also to the people of M'Pedougou, who first ignited my passion for rural West African life. And Levi: thank you for letting me go pursue my dreams. Somehow your love was big enough to let me go, and bigger still to keep supporting me when it was hard. Thank you, Levi and Jade and Leo, for supporting me while I have created this other baby—one that has taken a long time to gestate but that I hope lives a long and varied life.

This is a deeply personal book, and many will disagree with all or parts of my interpretation. My hope is that the book provokes fruitful reflection, curiosity, and debate; that's the goal of all of this.

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INTRODUCTION

Between the Sahara Desert and the lush plantations of the Atlantic coast of West Africa, at the edge of a dusty soccer field with a view of undulating brush, Alassane leaned back in his chair. We sat outside his house, a small rectangle of red adobe bricks with a sheet metal roof and a satellite dish perched on the corner. Alassane was a tall, lanky man in his late twenties, with a wide smile and a propensity for speaking in metaphor.

He adjusted the teapot on his charcoal stove as he talked about the state-controlled cotton company Sofitex, which manages hundreds of thousands of cotton farmers in Burkina Faso. “Sofitex ignores the little farmers,” he said. “We make them what they are, and yet they ignore us. Burkina Faso, it’s like a tree, and we, the little farmers, are its roots. If we fall, the whole tree falls.” He paused and decided on another metaphor. “No! It’s like it’s a car, and we are the tires. Without the tires, how can the car drive?” He continued, “They think we’re stupid. Just because we are bent over in the fields, they think we can’t think.”

Alassane’s older brother, Marcel, arrived on his motorcycle, and after a round of greetings, he propped his muscular arms across the seat to join in the conversation. The sun was slipping low in the hazy evening sky. I had come to spend many evenings drinking tea and enjoying meandering conversations with these two brothers, Alassane with his light laughter and Marcel with his furrowed brow, ready to spread open in amusement.

Alassane continued, “We know they aren’t listening because nothing changes. They write down what we say, but it’s like, it’s like they take that paper and they go buy meat and they wrap their meat with the paper and then throw the paper on the ground. That’s what they think of what we say.”

Marcel, shorter with broad shoulders, added, “And they don’t care about our health. They come and talk about pesticide safety after telling us to spray pesticides, and about the clothes we should wear, but they don’t

give any help to buy the clothes.” I thought about the ever-accumulating, empty pesticide bottles speckling the landscape and Alassane’s stories of spraying pesticides and coming home with a splitting headache and congestion, wondering what he was doing to his body.

“It’s as if they don’t care if we die,” added Alassane. “Our lives don’t matter; our lives are not the same as theirs.”

Marcel commented that all the people higher up the cotton chain “ate well.” They had big bellies and big houses because they ate all the profits and the money produced by farmers. “Cotton makes a lot of money, but not for us.” He paused and added that he wanted to get out of cotton. “Next year, I’m hoping to get out. I couldn’t get out this year, but next year.”

I started to ask why he couldn’t get out. But at this point, five months into my fieldwork, I was beginning to have some answers. “You need to save up enough money to buy your own fertilizer for your corn, right?” Farmers repeatedly told me that their soil was too depleted to grow corn without synthetic fertilizer, and the only source of fertilizer on credit was the cotton company.

“Exactly,” said Marcel. “That’s exactly what I am planning. I just want to get out of cotton. But I need to be able to save up enough money to buy my inputs in cash.” The problem was that he had fallen into debt after taking out credit to buy fertilizers, herbicides, and genetically modified (GM) seed for cotton. The only feasible way out of debt was to grow more cotton, despite its downsides and risks.

Burkina Faso, along with other West African countries, has bragged for decades about its “white gold,” the hundreds of thousands of tons of puffy, white cotton that it exports every year. “An engine of progress,” a “motor of development,” the “ticket to world markets.”¹ Certainly, the money from cotton is a crucial source of income and export revenue for one of the poorest countries in the world. State agency budgets, cars, salaries, and air-conditioned offices are paid for with cotton revenues, as are state debt repayments to international lenders.

Yet Marcel and Alassane—relatively poor farmers with histories of debt—were critical of this narrative of cotton. Not all farmers were critical, especially some of the wealthier farmers I met, but folks like Marcel and Alassane offered perspectives that echo sociological theories of global inequality and ecologically unequal exchange. “All the money leaves the country anyway,” said Marcel, as they turned to talking about exports. “*Tubabu jamanaw* (White people countries) now are even more crafty than the colonizers were. Now they pretend to be helping, but they are

still extracting our resources. They don't do it with force, so no one gets upset, but our resources are still leaving, and we don't see any of the profit."

Alassane concurred. "We in Burkina, we export our sweat and our soil. The cotton we sell? It's our soil and our sweat, those are the main ingredients. The same with all of it. What are we left with? Tired soil and tired bodies."

Few phrases sum up cotton production in West Africa so succinctly. Each year, hundreds of thousands of rural Burkinabè (the term for people from Burkina Faso) export their soil and their sweat. They spray herbicides to clear the land before the rains arrive and then guide plows behind their cows to till the soil. They swing their hoes and drop in seeds, walk their rows to thin the seedlings, then sprinkle grains of fertilizer across the earth—some of which has produced cotton for global export for over a century. As the plants emerge, women spend hours and days pulling up weeds, and young men mix backpacks of pesticides and walk through waist-high bushes pumping noxious insecticides and herbicides, creating clouds of acrid mist that drift across their bodies and seep into the rivers. They will anxiously watch the sky in hopes of regular patterns of rainfall—which is increasingly unpredictable due to climate change.²

Once the cotton bursts like popcorn across the fields, families and hired workers spend days upon weeks upon months hand-picking the tufts of white fiber. Their dusty and sweat-streaked arms move rapidly but gingerly, as the pickers are careful not to pierce their fingers on the sharp ends of dried-out bolls. Each tuft of cotton is dropped in a bag; the bags are emptied into growing mounds of cotton at the edges of the fields and eventually loaded into trucks that drive off in clouds of red dust toward the horizon. These farmers then wait many months to see if they will get paid. Many women who work for their husbands won't get paid anything at all. On average, the men earn around US\$1 per day of labor (see appendix), but many of these farmers will *owe* money in the end. They sell motorcycles and cows to repay money, which funnels up to banks and agrochemical companies far away, while their cotton churns through the global commodity chain to be turned into T-shirts, sheets, and jeans for people all over the world. Of the cotton that they grow, 98 percent is exported to global markets.

This book interrogates the process and consequences of agricultural modernization in the cotton sector of southwestern Burkina Faso, where farmers have expanded their use of agricultural technologies such as pesticides and GM seeds while exporting cotton to the global market. Through

ethnographic data, I show how this process reproduces both global and local inequalities and unravels ecological and social webs of interconnection. Yet I also found that this process was not simply one of top-down exploitation; rather, it was embraced in multiple (and at times ambivalent) ways by a range of actors seeking to better their lives, often reflexively aware of the symbolic and material standing of rural Black Africa in a global, racialized hierarchy. Rooted in agrarian political economy, in this book I engage in a broader scholarship that theorizes the interlinkages of race and capitalism to explain this paradoxical story.

I argue that paying attention to how capitalist dynamics have been interwoven with racialized hierarchies produces novel answers to what Henry Bernstein frames as the basic questions of agrarian political economy: Who owns what, who does what, who gets what, and what do they do with it?³ The framework of racial capitalism, which I will explain further in this introduction, also brings new questions that are sometimes seen as being on the periphery of political economy: Who *wants* what, and how do people justify this system? In sum, by examining the racialization of capitalism—both material and ideological—we can better understand why Burkinabè farmers are adopting new agricultural technologies despite the ecological, social, and environmental harms they cause.

Debates over African Agriculture

The decades-old story about the plight of African farmers begins with a description of crisis, poverty, and despair.⁴ The dominant narrative portrays African agriculture as hopelessly backward and unproductive, compounded by challenges of climate change and the specter of population growth.

In response to this description of crisis, global development actors have argued since the 2000s that African farmers urgently need a “New Green Revolution”: a fundamental transformation from unproductive subsistence farming to modern, capitalist agricultural production. Tractors, fertilizers, chemicals, credit, and markets—and fast!

This push builds on the oft-touted success of the “Old” Green Revolution. Promoted from the 1940s to the 1970s by the Rockefeller and Ford foundations and the US government, and staffed by teams of US-trained agronomists, the Green Revolution brought high-yielding seed varieties, fertilizers, pesticides, irrigation, and credit supply mechanisms to farmers

so they could purchase these new technologies. Agriculture in places like India, Mexico, and the Philippines was completely transformed. Despite the massive global scope of the Green Revolution, many of these major transformations did not take hold in Africa, despite (often underpublicized) efforts to do so.⁵

Since the early 2000s, a range of powerful development and philanthropic organizations have pushed to reignite an agricultural revolution in Africa.⁶ Backers have included the Bill and Melinda Gates Foundation, the World Bank, the US Agency for International Development (USAID), and older foundations like the Rockefeller Foundation. This vision was also promoted by Africa-based institutions like the Alliance for a Green Revolution in Africa (AGRA), although often with funding and guidance from outside groups like the Gates Foundation. There have been many variations and names for this vision, from the “New Green Revolution” to the “Gene Revolution” (focused on GM crops). By the 2020s, language has shifted toward discourses of sustainability or climate-smart agriculture. Despite these variations, these efforts share the vision that African farmers urgently need innovative science and technology, access to credit to buy new technology, and integration into value chains and markets to buy inputs and sell their products.

Scholars like Raj Patel have argued that the New Green Revolution is really a continuation—a “Long Green Revolution”—of “state reconfiguration, capitalist accumulation, concentration of power, disenfranchisement, agricultural investment and innovation,”⁷ extending before and after the 1940s and 1970s. There are certainly some shifts, including greater focus on the private sector, a reduced role for government, new genetic technologies, and frontiers of digital or precision agriculture. Yet the basic assumption remains the same: African farmers’ poverty is the result of insufficient integration into global capitalism and lack of access to modern technologies. Indeed, providing farmers with technology and markets is viewed as a moral imperative: Some have argued that *not* doing so is to literally force Africans into starvation.⁸

This narrative and project are not without their critics. There are significant scholarly as well as African-based and global social movements that have criticized this model of change for decades. Many scholars have pointed to the complex outcomes of the Green Revolution, including rising rural inequalities, environmental degradation, and reduced nutritional diversity.⁹ Most prominently, activists often frame agricultural modernization as a story of global corporations steamrolling local people as they seek

to increase their profits. In its most vivid form, this perspective portrays nefarious multinational corporations prying open African markets, forcing rural farmers to abandon their indigenous seeds and cropping systems. The American corporation Monsanto (now owned by Bayer), the world's leading manufacturer of GM seeds, has long been the principal target of ire. Marches against genetically modified organisms (GMOs) in West African cities, for example, featured posters claiming, "Monsanto is worse than Ebola." This activist narrative often envisions local people fighting back against corporations and working to reestablish food sovereignty, indigenous livelihoods, and ecologically balanced forms of farming.

I began my research intrigued by this debate. While I leaned toward a critical position, I was curious what I would find to support or contradict these wildly polarized claims.

Agricultural Modernization in Burkina Faso

Alassane and his brother Marcel would likely disagree with the argument that African farmers are poor because they are left out of capitalism and lack access to new technologies. They would agree with the description of many of their problems: They face declining soil fertility and erratic rainfall, worry about climate change, and want to achieve the material betterment of their lives. Yet they are not without access to new agricultural technologies, and they are not disconnected from global markets. They are, in fact, like hundreds of thousands of other Burkinabè (and other West African) cotton farmers—*deeply integrated* into global capitalism and circuits of global agribusiness.

Farmers in Burkina Faso grow hundreds of thousands of tons of cotton each year, the vast majority of which is shipped out of Africa to be turned into textiles for global consumers.¹⁰ In growing this cotton, Burkinabè farmers spend tens of millions of dollars each year on fertilizers, herbicides, and insecticides. A growing, but still small number of farmers own tractors (about 3 percent in 2016), and from 2008 to 2015, Burkinabè cotton farmers were the global face of GM crops in Africa. The case of Burkinabè cotton farmers is thus an ideal case for diving deeper into the causes and consequences of agricultural modernization in contemporary West Africa.

I began this project with a specific focus on GM cotton, a technology that was hotly debated in global circles by promoters and critics of

agricultural modernization efforts in Africa. In 2008, Burkina Faso became one of the first African countries to commercially introduce a GM crop, and the first to do so with large numbers of small-scale farmers. The crop introduced was Bt cotton, which is insect-tolerant because it is modified to produce a soil bacterium called *Bacillus thuringiensis* that, when ingested, kills some classes of insect pests. Bt arrived through a contract between the US agribusiness Monsanto (now Bayer) and the Burkinabè cotton sector. Monsanto provided Bt cotton, but—on the insistence of Burkinabè cotton-sector actors—the US Bt cotton cultivar was backcrossed with Burkinabè cotton cultivars that have a longer fiber length and are better suited to local growing conditions.¹¹ These cultivars were field tested in 2006 and 2007 and commercially introduced in 2008. By 2013, 70 percent of Burkinabè cotton farmers were growing Bt. This number remained roughly constant until 2015 and featured widely in international accounts of Burkina Faso's GM success story.

Two months into my fieldwork in 2016, Burkina Faso announced an abrupt phaseout of GM cotton. Like many international observers and cotton farmers themselves, I was taken by surprise. Although global anti-GMO activists rapidly claimed success in kicking out Monsanto, the exit was driven not by anti-GMO ideology or activism, but by economic and technical decisions by the state-run cotton sector. Scientists in the state cotton sector had known for many years that the backcrossed Bt cultivars had a shorter fiber length and lower ginning ratio than Burkina's traditional long-fiber cotton cultivars, which had earned Burkinabè cotton a significant price premium on international markets.¹² Although Bt cotton was claimed to have higher yields,¹³ its shorter fibers led to a decrease in international cotton sales and declining income for Burkina's cotton companies.¹⁴ Monsanto even paid financial compensation to the Burkinabè cotton sector in 2011 in recognition of this problem. Yet the cotton sector was frustrated by Monsanto's failure to address the fiber length. So in early 2016, just as I began knocking on office doors, state officials and cotton sector leaders were in the final stages of ending their relationship with Monsanto and moving the cotton sector back to conventional cotton that relied upon insecticides.

This story played out quite visibly on the grand stage of international debates over GMO crops. Pro-GMO actors continued to promote the success story of Bt cotton in Burkina Faso, framing it as a minor technical glitch, while anti-GMO actors picked up the David and Goliath narrative of the little guys kicking out the evil corporation.¹⁵

To make sense of the shifting landscape, I sought a range of voices. I interviewed scientists and state employees and met a small group of activist farmers who kept appearing at anti-GMO events. These men introduced me to Kongolekan and Dougoumato, two rural communities where I ended up conducting five months of participation observation and interviewing. My initial impression was that these communities were likely to be hotspots of activism and windows into understanding local movements of resistance.

However, I quickly learned that these communities featured a wide range of perspectives on Bt cotton. At my first group meeting in Kongolekan, after several farmers complained about Bt cotton, an older man spoke up: “At least with GMOS, it worked, and it killed the worms. You sprayed less; you suffered less. I’m old, I don’t want to go back out in the field with the backpack and the sprayer to spray my fields (with insecticides). There are young men here too who don’t want to go back out with the sprayers and spray their fields.” Others nodded.

As my fieldwork progressed, my search for a widespread resistance movement began to dissipate. Yes, there was a small network of anti-GMO farmers in the region, but they were a minority. Moreover, I came to understand that for most farmers, the choice to grow GM cotton was not between “peasant” agriculture on the one hand and “corporate, privatized, and industrialized” agriculture on the other. It was a choice between chlorpyrifos insecticide sprays (manufactured by a French agribusiness) or an expensive seed (stemming from a US agribusiness). In the first month of my fieldwork, I asked farmers what they thought of privatized, patented seeds. No matter how I worded it, my questions fell flat. Farmers have purchased cotton seeds for decades; Bt seeds were not newly privatizing. Bt cotton was simply one more thread of hundreds of capillaries of capitalist relations already present in these communities. The farmers even purchase improved corn seed varieties, which some of them explained were necessary due to changing rainfall patterns. Thus, to think of GM seeds as a sudden insertion of capitalist expansion or as a sudden enclosure (as many global anti-GMO activists do) seemed too myopic. It missed the broader web of capitalist relationships and technologies already woven throughout rural people’s lives. This narrow focus also diverted my attention from other forms of transformation and resistance that weren’t focused on GM crops but rather on other structures of economic and cultural exploitation and hierarchy.

As the growing season got underway, evidence of those broader threads of agricultural transformation was all around me. Empty pesticide bottles



1.1 A pop-up pesticide stall by a roadside near Kongolekan. Photograph by the author.

littered the landscape, a dramatic shift from my time as a Peace Corps volunteer in southern Mali less than ten years prior. By the start of the rainy season, stalls of herbicides popped up along roadsides, in regional towns, and even in people's houses. Informal pesticide sales transactions began interrupting my interviews. ("Excuse me, I have someone coming by to purchase some products. Can we pause?" *Sure*. The storage house would be unlocked, and boxes of herbicides unpacked and sorted through. "OK, where were we?")

In my perusals of cotton fields, ditches, weekly markets, and agricultural input sales points in cities, I found all kinds of chemical products saturating the landscape. Cotton is famously the most pesticide-intensive crop in the world.¹⁶ I found many products known to be highly hazardous and carcinogenic, including illegal substances like endosulfan that are banned in most parts of the world.¹⁷ Scholars have estimated that roughly 30 percent of pesticides in West African markets are unregulated.¹⁸ Large numbers of farmers—and their teenage children—are applying these chemicals, often without protective equipment and with little knowledge about these substances.¹⁹ They are also drinking water from nearby streams. Women are washing pesticide-soaked clothes in these streams, harvesting vegetables



1.2 A woman fills up a bowl for drinking and cooking with water that was collected from a nearby stream during large-scale insecticide spraying on cotton. Photograph by the author.

from pesticide-soaked fields, and reentering fields with children directly after pesticide exposure.

Insecticides are the most acutely toxic of these pesticides. Insecticides have been around for decades in cotton farming, provided through Sofitex on credit. From minimal use in the 1960s, insecticide use rose rapidly in the 1970s and became nearly universal in cotton fields by the 1990s.²⁰ Insecticides are now required as part of a cotton farmer's input package with Sofitex, and farmers are given six insecticide treatments to apply every two weeks during the growing season. Insecticides have come to be seen by most cotton actors as indispensable because of rising pest concentrations. These concentrations emerged because of a history of cash cropping that produced simplified agroecological landscapes characterized by reduced intercropping, fallowing, and long-term field rotation.

Heavy insecticide use, in turn, provoked a crisis of insecticide-resistant pest populations by the 1990s—a classic pesticide treadmill. Concerns also began to rise about the toxicity of organophosphate and organochlorine insecticides like endosulfan. New classes of insecticides (including neonicotinoids) were rolled out, alongside Bt cotton from 2008 to 2015, both of which were explained to me as necessary technologies to respond to the crisis of insecticide-resistant pest populations.²¹

Herbicides, on the other hand, have only taken off in recent years, with a staggering increase in West Africa since the early 2000s.²² By 2016, broad-spectrum herbicides like glyphosate were everywhere, in endless permutations of brightly colored bottles and clever local names. Following the expiration of Monsanto's patent on glyphosate, Chinese- and Indian-produced generics drove prices down dramatically and made them much more attainable—as low as US\$5 for a bottle, often sold on the informal market.²³ Glyphosate has been deemed “probably carcinogenic to humans” by the International Agency for Research on Cancer (IARC), although the US Environmental Protection Agency (EPA) disagrees.²⁴

Although glyphosate's toxicity has been hotly debated, a broad range of herbicides is used to clear fields prior to planting (a no-till farming method). Some farmers increasingly use selective herbicides on cotton and corn throughout the growing season. Many farmers also use herbicides and other pesticides (such as fungicides and insecticides) on corn, around their houses, and in periurban vegetable farms.²⁵ In short, pesticides are everywhere.

Burkinabè cotton farmers are thus clearly connected to global markets and new agricultural technologies. Agricultural modernization advocates regularly hold up Burkinabè cotton farmers as a grand success, evidence for how other farmers might also be integrated into systems of markets, credit, and technology to achieve prosperity and development. Cotton is proclaimed by many to be West Africa's white gold.

But Alassane and Marcel, as well as scores of other farmers I spent time with and interviewed for this book, remain skeptical of this story. Markets and technology have *not* lifted many of them out of poverty. While a small number of wealthier farmers do make money from cotton, most farmers struggle incessantly with debt, scraping by year to year and even selling off productive assets to repay their debt. They are exposed to hazardous pesticides while farming, and many feel trapped in a cycle of debt, needing to purchase ever more inputs to coax along their depleted soils, combat pest infestations amid a changing climate, and cope with labor shortages, all while trying to expand their production. Families are splintering under the social stress of repaying each other's debt, combined with increasingly individualistic cultural norms.

In the face of these dramatic consequences, the activist counternarrative would predict that farmers would resist modernity and capitalism, eager to return to traditional ways of farming. This is what I too expected to find when I launched this research: rural people rising up against the

devastations of capitalist agriculture. After all, Burkinabè had marched in the streets to oust President Blaise Compaoré in 2014 after twenty-seven years of crony capitalism and thinly veiled authoritarianism.

Many farmers are indeed critical of global power imbalances and engaged in varying forms of resistance. The 2010s saw a resurgence of cotton farmer collective action and mass boycotts, where cotton farmers refused to grow cotton to protest low cotton prices and perceived corruption.²⁶ Nonetheless, Marcel and Alassane would disagree with many elements of the activist narrative. Marcel really wants a tractor—“like White farmers use in America”—the bigger the better, and forget about telling him to stop using synthetic fertilizers or herbicides. These inputs make farming easier and free him from exhausting labor. Alassane, in turn, doesn’t even want to be a farmer. He wants a decent-paying job in the city, where he can use his education and have a computer—a “White person’s job”—instead of working in the fields every day under the hot sun.

In contrast to romantic stories of resistance to modernization, I found that many farmers actively desire agricultural modernization, despite its many harms. Thus, while the pro-modernization narrative ignores widespread social and ecological harm, the activist narrative often ignores farmers’ desires and agentic role in technology adoption. This book will flesh out these contradictions, and in so doing unpack the puzzle of why farmers are adopting new agricultural technologies despite their harmful consequences.

Technology Adoption and African Agrarian Change

One can approach this question from several angles, from literature on technology adoption and diffusion or African agrarian change, or even from Gramscian theory, which puzzles over why people comply with systems that exploit them. These literatures offer several useful correctives to the polarized public debates. They remind us that African agriculture is already embedded in a history of colonialism and global capitalism, that “peasants” do not comprise a monolithic group, and that people often take part in processes that harm them.

Rural sociologists and economists have long examined agricultural technology adoption by emphasizing rationality and cost-benefit analysis.²⁷ This micro-level approach assumes that farmers adopt technology when it serves

their interests but tends to ignore the macrostructural and cultural factors shaping farmers' range of choices and how they define their interests.

In contrast, agrarian political economy has long examined the broader contours of economic transformation in the countryside. Scholars of global imperialism like Walter Rodney and Samir Amin contend that rural Africans have long been inserted into global capitalism as a crucial source of labor and resources.²⁸ The question is not whether, but *how*, capitalist relations have played out in particular times and places. One recurrent pattern is a technological treadmill, wherein economic pressures produce self-reinforcing dynamics of technology adoption alongside class differentiation.²⁹

Political economy offers a necessary expansion from micro-level explanations and sets a fuller stage. Nonetheless, this set of tools doesn't fully explain the actions of diverse actors who inhabit that stage, particularly when groups who are harmed or exploited nonetheless support a system that benefits elites.³⁰ Here, Italian political theorist Antonio Gramsci usefully elaborated the dilemma of hegemony. Gramscian analysis examines the unstable combinations of *coercion and consent* that produce or destabilize hegemony within a particular historical moment (or conjuncture).³¹ Drawing on Stuart Hall, many recent Gramscian-inspired scholars pay attention to both political-economic forces *and* culture and ideology.³²

In this vein, many scholars of agrarian change have challenged top-down narratives of agricultural change as an imposition from above, showing how rural folks themselves shape processes of agrarian change, albeit in conflicting ways and in conditions not of their choosing. Sara Berry and Thomas Bassett have argued that in West Africa, agrarian change has always been fluid and contested, shaped as much by the actions of African people and contestations within African societies as by colonial powers.³³ As Tania Li has argued in her work on rural Indonesia, relations of capitalism—and devastating social inequalities and enclosures of land—can emerge slowly over time from seemingly mundane everyday choices, shaped by economic pressures as well as peoples' aspirations for better livelihoods and social status.³⁴

Moreover, rural people are not a homogenous group. Simplified narratives in public as well as academic debates often flatten African “peasants” into a single category: as either victims or resisters.³⁵ Pushing back against what they call peasant essentialism, scholars have long documented significant differentiation and conflict within rural communities along lines of class, gender, age, ethnicity, or social networks.³⁶ A growing scholarship has also sought to understand farmer practices as connected to identity

and social performance.³⁷ These complexities are important for understanding attitudes toward new technologies, as practices often diverge from economic analyses or activist predictions.

These bodies of literature offer valuable insights that I draw upon. Nonetheless, I contend that they have overlooked the *racialized* dimensions of agricultural modernization. I repeatedly observed how widening fractures of inequality—and the narratives that justify them—worked through idioms and bodies structured by racial difference. For example, pesticides and fertilizers are often perceived as symbols of progress, development, modernity, and reduced labor, but these associations are deeply entangled with histories of racial hierarchy. In Burkina Faso, fertilizers are colloquially referred to as “White people dirt” (*tubabu nogo*), as opposed to compost, which is called “Black people dirt” (*farafin nogo*).

Despite observing these racialized dynamics (and others, which I will elucidate in this book), I found limited frameworks within existing literature on agrarian change, particularly not for contexts such as Burkina Faso that lack a settler colonial history or obviously racialized hierarchies of labor exploitation. This reflects a broader gap: Scholarship on Africa and international development has been largely silent or colorblind on dynamics of race outside settler contexts like South Africa.³⁸ As anthropologist Jemima Pierre has remarked, “Most contemporary ethnographic studies of postcolonial Africa rarely mention race.”³⁹

Critical world systems, postcolonial, and postdevelopment scholarships have certainly centered on histories of colonialism, imperialism, and even the Eurocentricity of development and modernity.⁴⁰ This multipronged scholarship has usefully examined the political, economic, and even military networks that have retrenched global inequalities and created systems that exploit African farmers. Nonetheless, this scholarship has rarely interrogated how *race*—as a construct, as an imaginary, as a global color line—plays a role in processes of agrarian change and how this articulates with capitalism.

Agricultural Modernization as Racial Capitalism

This book argues that agricultural modernization in the cotton sector of Burkina Faso is embedded within the economic and cultural world-system of racial capitalism. In doing so, I do not propose a singular, static system

that supersedes or engulfs all other systems or angles of analysis. Rather, I use the concept of racial capitalism as a form of intersectional political economy that *orients our attention* toward a set of intertwined hierarchical systems that overlay and intersect with many other systems, including imperialism, colonialism, and patriarchal structures, as well as historically contingent cultural forms and contestations.⁴¹

A growing scholarship on racial capitalism builds on early contributions from Oliver Cox, Cedric Robinson, and Robin D. G. Kelley.⁴² Put simply, racial capitalism is a framework that sees capitalism—both its economic structure and ideological scaffolding—as historically predicated upon racialized hierarchies that structure humans into categories of naturalized difference.⁴³ As Robinson wrote, as “the development, organization, and expansion of capitalist society pursued essentially racial directions, so too did social ideology. As a material force, then, it could be expected that racialism would inevitably permeate the social structures emergent from capitalism.”⁴⁴ In this view, race is not an additional factor that tacks onto class in analyses of capitalism; rather, it is a central modality of difference and hierarchy through which capitalism has historically operated.

While I draw on elements of this literature, I also engage with a broader set of scholars—“fellow travelers”—who do not all use the term “racial capitalism.”⁴⁵ This includes a resurgence of scholarship that draws on W. E. B. Du Bois and a global postcolonial sociology of race, as well as overlapping, ecologically oriented scholarships in political ecology and environmental sociology, such as recent theorizations of the Plantationocene. Despite a plurality of vocabularies and some differences in approach, I see these projects as connected. These approaches understand the global world-system as not just an economic and ecological system built upon unequal exchange and the exploitation of racialized others, but also a system that (simultaneously and necessarily) intersects with cultural and ideological fields that have become structured around what Du Bois called “the global color line.”⁴⁶ As Gargi Bhattacharyya argues, “Racial capitalism operates both through the exercise of coercive power and through the mobilization of desire.”⁴⁷ In other words, coercion and consent in the expansion of capitalism are *both* refracted through race.

I use these connected bodies of thinking to ask new questions about agrarian change in West Africa, primarily around how racial ideologies and processes of racialization have shaped the expansion of capitalist agriculture while papering over many ruptures that have emerged from the system’s internal contradictions. My aim is not to shoehorn the messiness

of the world into a single, fixed box, nor do I see racial capitalism as an all-encompassing object. Rather, it is a project that is made and brought into being in historically and contextually contingent ways, always in intersection with other structures of culture and power.⁴⁸ I thus follow historians Destin Jenkins and Justin Leroy “to *think with* racial capitalism . . . [as a] methodological practice—a way of seeing” that orients us to more closely consider “the historical relationship between economic relations of exploitation and the racial terms through which they were organized, justified, and contested.”⁴⁹

Although much recent scholarship on racial capitalism has focused on the United States, scholars in and of Africa are also engaged.⁵⁰ Many notable African theorists—including Achille Mbembe and Joseph Tonda—arrive at similar analyses without naming “racial capitalism” as such.⁵¹ At the same time, the very concept of racial capitalism has origins in apartheid South Africa. Despite this, scholars and development practitioners working in other regions of Africa often ignore global dynamics of racialization.⁵² Even critical analyses of colonialism and empire (including the recent turn toward decolonization) do not always narrow in on the intertwining of racialization and capitalism. This despite Du Bois’s significant engagement and writing on Africa and the global color line in the early twentieth century. Jemima Pierre’s pioneering ethnographic work in Ghana thus had to make the case for “recognizing postcolonial African societies as structured through and by global White supremacy,” and for the need to pay attention to processes of racialization.⁵³ More recently, Jordanna Matlon explicitly uses the concept of racial capitalism to untangle the structural exclusions and identity aspirations of urban men in Abidjan, Côte d’Ivoire.⁵⁴ As important as this scholarship has been, much of it is urban centered. What about rural worlds?

Some scholars connecting racial capitalism with agrarian systems have forwarded the framework of the Plantationocene, an alternative naming and understanding of the racialized *logics* of control, violence, and commodification (thing-ification) of both bodies and ecologies that underlies social and ecological crises.⁵⁵ In this framing, the historical case of cotton reveals how soils, bodies, and wealth have been linked through global webs of racialized violence and control, from plantation slavery to forced labor under colonial regimes.⁵⁶ In parallel, racial capitalism scholars highlight the simultaneous exploitation or dispossession of racialized and gendered people *alongside* land and ecosystems, based on what Gargi Bhattacharyya calls a broader “myth of expendability.”⁵⁷ In different words, Jodi Melamed

argues that racial capitalism requires the “disjoining or deactivating of relations between humans (and between humans and nature),” which is necessary “for capitalist expropriation to work.”⁵⁸ Sutured with broader literature in political ecology and environmental sociology, the racialized dynamics of *disconnection* help to further explain how capitalism and imperialism create rifts within and across both human societies and ecological systems.⁵⁹

To explore the dynamics of racialization within capitalism, we also have much to gain from broader scholarships on race, including an emergent global anticolonial/postcolonial sociology of race that draws on W. E. B. Du Bois and postcolonial and decolonial thinkers like Frantz Fanon.⁶⁰ This scholarship reminds us that racial terms and meanings are not stable. There is a broad consensus across biological and social sciences that race and racial categories do not correspond to distinct biological categories.⁶¹ Instead, categories of race have been *formed* over time to serve particular purposes. In the last few centuries, this has been to justify the material projects of slavery and colonialism.⁶² Sociologists Michael Omi and Howard Winant famously contend that racial categories and their meanings change—come into formation—as groups of people work to reconfigure them.⁶³

The idea of racialization thus refers to how ideas of biological, natural differences (and associated essences) get attached to human bodies and to a broader constellation of meanings and assumptions.⁶⁴ (So a “White” person comes to be seen as a genetic, natural category of human that possesses traits like intelligence.) Importantly, racialization can involve more than physical bodies: Practices, cultures, places, and ways of acting or speaking can all be racialized. According to Barnor Hesse, understanding modernity as racialized involves understanding “race beyond corporeality as signifying colonial distinctions between assemblages of ‘Europeanness’ and ‘non-Europeanness.’”⁶⁵ Modernity, Christianity, the West, science, and rationality are all part of the racialized assemblage of Europeanness, constructed in direct opposition to the non-European Other. This insight is crucial for my analysis in this book. I interrogate, for example, notions of dirt and cleanliness, sweat and labor, as part of broader constellations of meaning that map onto racialized structural locations within capitalism.

At the same time, racialization operates in a constellation, beyond a binary. West Africa is characterized by highly nuanced ethnic and racial divisions, immigrant populations (i.e., Lebanese, Indian, and Middle Eastern), a long and complicated history of Islam, and fast-rising Chinese and Russian presences. Amid this, categories of White and Black have operated for over a century as key poles of the global racial hierarchy produced

through European imperialism and colonialism.⁶⁶ Still, global structures are shifting, and Whiteness may increasingly be decentered through changing global geopolitics—that is, China’s growing presence, Russian alliances, and the growth of recent anti-French movements in the Sahel. However important these shifts may be, they may not deconstruct global anti-Blackness. We will need to pay greater attention to these shifts and what they mean for reconfigurations of racial meaning.

The last core element that I want to highlight is how racial capitalism intersects with patriarchal systems of power.⁶⁷ Patriarchal structures operate both outside of and in tandem with dynamics of race and capitalism, and they have often been coopted and brought into racialized and capitalist systems. Feminist political economists have long shown how capitalism relies upon the necessary yet invisible backbone of reproductive and unpaid labor.⁶⁸ Moreover, as Jordanna Matlon has insightfully argued, gendered identities—such as successful masculinity—are defined within specific political-economic structures, which today are forms of racial capitalism. Cultural aspirations for meaning and status thus play out in these very specific manifestations: That is, what does it mean to be a successful Black man in the economic conditions of late neoliberal capitalism?

These nuances and layers are important, lest we interpret racial capitalism as a top-down framework that places full explanatory weight on global capitalism and the racist West bearing down on Africa—reproducing what Gillian Hart calls the “impact model.”⁶⁹ This is an old story that risks reproducing the very power dynamic that I aim to critique: the centering of Europe/the West as the engine of history, and all other action framed as a response to the Euro-center. While I am keenly aware of this risk, the opposite problem currently prevails in agricultural development circles: a complete refusal to acknowledge the historical and ongoing significance of racialized hierarchies.⁷⁰ The challenge is thus to pay adequate attention to what Ann Laura Stoler calls the “duress” of empire and racial capitalism,⁷¹ while holding this frame lightly enough to open space for agency and forces both within *and* outside these dynamics.⁷²

A Note on “Technology”

In this book, I focus on so-called modern agricultural technologies. However, this focus clearly risks reproducing unspoken racialized and colonial assumptions about modernity and technology. Clapperton Chakanetsa

Mavhunga writes about “the asymmetry of definitional power,” wherein former imperial powers continue to define what constitutes science, technology, and innovation.⁷³ Africans’ significant (and stolen) contributions throughout the last five centuries are written out of a history that defines science, technology, and innovation as the “Houdini acts of white people.” Africans are framed as adopting, borrowing, or tinkering with inbound technologies, always as the “victim or subaltern of technology,” rather than as creative thinkers and innovators of their own technologies.⁷⁴

Why, then, continue to focus on the apparently inbound technologies and risk reifying the very system of racial hierarchy that I seek to unpack? There is value in questioning whether these technologies are categorially different from the many ingenious African technologies and innovations created, used, and purchased within communities or a region. Kongolekan, for example, had a thriving blacksmith with apprentices who worked seemingly nonstop, producing and repairing hoes of different sizes and shapes, attachments for ox-drawn plows, seed planters, tractor attachments, motorcycle parts, and other devices. Rural men and women regularly develop nuanced cropping strategies, tools, and technologies to suit their specific needs, desires, and constraints—examples of what Laura Ann Twagira insightfully calls “embodied engineering.”⁷⁵ These tools and activities often escape attention in global debates over the New Green Revolution in Africa.⁷⁶ The corn-fertilizer-labor system described in chapter 2 is one example of this.

And yet, modern agricultural technologies are significant elements of a broader web of economic, ecological, social, and epistemic relations produced and shaped by racial capitalism. The very label of these technologies as “modern” shapes the way that people view and engage with them. Their production as (often imported) commodities means that farmers purchase them on credit as inputs, relinquishing not only money but intellectual control, skill, and the power to shape the development of the technology.⁷⁷ Credit/debt relations produce a dynamic wherein money flows out of communities and compels farmers into the profit-maximizing behaviors of “homo economicus.”⁷⁸

The technologies themselves perpetuate an agricultural and economic system that extracts labor and value from both ecological systems and racialized others—a plantation logic that orders nature and human relations around systems of control, violence, and exploitation. Chemical inputs like fertilizers and pesticides have long roots in histories of plantations, capitalism, war, and petrochemical expansion.⁷⁹ That cotton is the world’s

most pesticide-intensive crop, and simultaneously linked with the global history of slavery and forced labor, is thus not entirely random.⁸⁰ Moreover, input development and technical itineraries are rooted in agricultural sciences that are oriented toward maximizing yields in simplified and ever-accelerating cropping systems.⁸¹ These technologies emerged as tools to maintain capital accumulation in the face of ecological and social crises in agriculture.⁸² Chemical fertilizer stepped in to fix the “metabolic rift” in soil fertility,⁸³ in turn enabling intensified and simplified cropping systems that resulted in dramatic intensifications of pests. Pesticides have enabled the short-term maintenance of these intensified agricultural systems, yet over time, they produce resistance in pest populations, compelling further technological adaptations to shifting ecologies.⁸⁴

Many of these technologies are historically unique in the degree to which they manipulate molecular structures and rely on stored sources of fossil energy. Global petrochemical extraction produces racialized inequalities in terms of global profit distribution, environmental contamination at sites of extraction and refinement, and global vulnerability/exposure to climate change. The resulting agricultural inputs are capable of great destruction and yet are still poorly understood, including by the scientists who designed them.⁸⁵ Pesticides, for example, are not to be readily celebrated when farmers repurpose them in creative ways. One farmer, for example, told me about a friend who dumped endosulfan pesticides into a stream to kill the fish, and then caught the fish to sell in the market.

Nonetheless, these technologies are not Houdini acts, transforming social relations or rolling out relations of capitalism in and of themselves. Agricultural technologies do not automatically compel farmers into industrialized, capitalist farming practices—much to the chagrin, in fact, of the historical promoters of agricultural development. In fact, African farmers have often rejected these technologies despite massive efforts on the part of international organizations and nation-states to promote them. The so-called failure of the Green Revolution in Africa speaks to the uncertain, always contingent nature of these pathways of agrarian change.

So what is going on in the early twenty-first century such that farmers in Burkina Faso are rapidly incorporating these technologies into their farms, their lives, their livelihood strategies, and even their identities? How are these technologies and farmers’ use of them connected to the unfolding social, economic, and ecological dynamics of racial capitalism? These are the questions animating these pages.

Research Process and Study Site

In my first month of rural fieldwork, I found myself caught in the crosshairs of a cultural event in Kongolekan, the rural community where I conducted fieldwork. Local Bwa men were engaged in a ritual to initiate a middle-aged man into a society of spiritual consultants. Marcel had invited me to observe the activities in the early morning, where we watched the man emerge from a small building in a grass skirt, his body smeared in clay, following a series of rituals performed inside the building. Marcel and I then headed to his fields to plant cotton, and I returned to my house in the afternoon.

The festivities were moving around town and had arrived outside my house. I chatted for a while with the initiate and a few other men as a large crowd began to gather in a nearby clearing. The initiate asked for photos, and we posed together. A few young men ran to join the photo op with my iPhone. Soon, musicians began to play and a large circle formed, mostly of women tapping their feet in a synchronous shuffle. A group of men ran over to me and dragged me into the circle, holding up my arms in an excited manner. I tried to mimic the rhythmic shuffling of feet in time with the woman in front of me.

Not long after, a wiry older man in a thick cotton tunic came toward me, his face taut. He took my arm and pulled me out of the circle. He spoke in Bwamu, so I didn't understand him, but his message was clear: You do not belong in this ceremony. I stepped aside, uncomfortable. The other group of men—younger, dressed in Western clothes and loafers, and clearly more powerful in the community—ran over to push me back into the circle. "Don't worry about him," they told me in Dioula, reassuring me that they wanted me to be included.

But I did worry. I am distinctly aware of the many perils of White Americans conducting research in West Africa. What is my place, and what are the limits and blinders on my understanding? Can I ever truly see those limits? There are legitimate arguments that White people really have no place studying, representing, documenting, or interpreting African (and other subaltern) lives. At the same time, American, European, and Chinese agribusinesses, development actors, and technology companies certainly have no qualms about arriving in these spaces. I thus approach this research as seeking to understand global chains of connection, increasingly necessary for comprehending complex processes such as agricultural modernization that involve differently situated actors connected across the globe.⁸⁶

I sought (and seek) to be continuously reflexive about my positionality. Being an educated White American woman in my early thirties shaped all my interactions, from whom I was able to gain access to, how I was treated, and what people said to me during interviews. This positionality also shaped my theoretical and empirical interests and how I interpreted my data. Throughout my time in Burkina Faso, I observed persistent racial hierarchies and the privileged treatment of White people.⁸⁷ My status regularly opened doors for me. One Burkinabè researcher told me that I should take advantage of this. She noted that my particular status gave me access to more powerful people (some that she had struggled to access), including leaders at Sofitex, and interviews with the directors of government institutions and private companies like Monsanto.

Many of the insights in this book emerged precisely because of this access and the salience of my race. My presence prompted recurrent discussions on topics such as migration (young men asking me to help them escape Burkina's "hellhole" to get to the United States), *tubabu* (White people) technologies, and even skin bleaching and beauty. The repeated, ongoing consternation that I should not sweat in the fields with farmers was a particularly useful insight into racialized understandings of labor.

Nonetheless, there are clear limits to my insights and a world of things that I could not understand or was not privy to. My Whiteness no doubt highlighted dynamics of race that would be less salient absent my presence. I thus situate my contribution as one standpoint among many, one voice in a conversation.⁸⁸ As feminist epistemologists of science have long argued, recognizing this does not make my insights useless or hopelessly biased. All observations are shaped by the standpoints of observers. By recognizing these standpoints and putting them in conversation with other standpoints, we can hopefully begin to triangulate to achieve a multidirectional understanding of the world around us.⁸⁹

I began this research wanting to understand how agricultural technologies were promoted, embraced, interpreted, or resisted by different actors. Drawing on approaches to global ethnography from scholars like Michael Burawoy, Gillian Hart, and the tradition of political ecology,⁹⁰ I wanted to understand the broader dynamics of change that people were embedded within. I thus designed a study that would examine not only a farming community but the various groups of people involved in cotton and debates over agricultural modernization: extension agents, cotton company and state employees, research scientists, agribusiness employees, and activists.

My fieldwork thus played out in several sites. I conducted five months of participant observation in a farming community that included both avid adopters and some active resisters of new agricultural technologies. As noted, I found the adjacent communities of Kongolekan and Dougoumato through a group of anti-GMO activist farmers who helped introduce me to the community and rent a house. I also had assistance from two extraordinary master's students in sociology from the University of Ouagadougou, Abdoulaye Sawadogo and Ines Rouamba, who accompanied me for several weeklong stints, helping me navigate the politics of entering a field site, including framing myself specifically as a student who was not associated with the activist movement. They also helped me translate ideas in my interview guides and interpret and think through emergent findings and observations. Abdoulaye, who was able to accompany me more often, brought his small motorcycle with him, and we used this to get out to remote fields. Abdoulaye learned as much about cow plowing and cotton farming as I did and took copious field notes that he debriefed me on in the evenings.

I conducted most of this research in the Dioula language. Because of my two years living in southern Mali, I speak near-fluent Bambara/Dioula (the lingua franca of southwestern Burkina Faso), in addition to French (which I used for interviewing state-level employees). Speaking Dioula opened many doors for me and enabled me to conduct extended participant observations with numerous types of people throughout my research. I could overhear fights and exchanges between farmers and extension agents or husbands and wives, chat all afternoon as I worked in the fields, and pass evenings talking in small groups. Compared to interview or survey work that must be translated, this exponentially increased my data. However, people in Kongolekan are primarily Bwa and speak Bwamu with each other, which limited my understandings. Nonetheless, many of the key findings in this book emerged from my informal observations and conversations.⁹¹

During my time in Kongolekan and Dougoumato (dispersed throughout the agricultural season from planting in May through harvest in December), I conducted extended participant observation with dozens of men and women in their daily lives and on their farms, taking detailed field notes each day. I regularly farmed from morning to afternoon in all kinds of farm operations, from the poorest to the wealthiest farmers. I sorted seeds, planted, used a cow-drawn plow, weeded, thinned, applied fertilizer, harvested, and packed cotton into Sofitex shipping containers. I also took part in daily social life, going to church, observing initiation ceremonies, attending funerals, drinking tea, hanging out for morning coffee and



Map 1.1 A map of the study sites discussed in this book.

Map created by Amber Bell.

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horse-race betting on the roadside, or shelling peanuts in the evenings. I conducted semi-structured, tape-recorded interviews with sixty-seven farmers (forty-three men and twenty-four women), and spent long, informal hours with small groups of farmers to review my notes and ask them their thoughts on my emerging understandings.

In addition to participant observations in a farming community, I spent time roaming the halls of research stations, government offices, and the state cotton company, Sofitex. I spent one month at the regional office of Sofitex in Houndé, where I followed along with cotton company employees as they traveled to regional towns and villages for yearly meetings with Cotton Groups (Groupements des Producteurs du Coton [GPCs]). I interviewed seventeen Sofitex employees (countrywide) and observed over a dozen meetings between Sofitex and farmers across the Houndé region. Along with Abdoulaye Sawadogo, my research assistant, we bumped along for hours on dusty roads in the Sofitex pickup trucks, waited for flat tires to be repaired, ate meals and drank sodas, and scribbled notes while farmers grumbled in the rows behind us or stood up and began to shout at the Sofitex agents. Abdoulaye took field notes too and shared his incisive insights throughout this process. This month spent following Sofitex helped me understand the broader economic and social structures shaping cotton farmers' lives. It also gave me access to the perspectives of people across a much broader region than simply the communities of Kongolekan and Dougoumato.

Near the end of my fieldwork, I spent time with Abdoulaye in the southern Banfora region of Burkina Faso exploring organic cotton. We interviewed thirteen organic cotton farmers and several organic sector employees to try to better understand the possibilities of farming without intensive inputs.⁹² In sum, I conducted a total of 125 semi-structured interviews that were tape-recorded and transcribed. I also attended regional conferences dealing with cotton pest management and biosecurity, publicly advertised events related to agriculture or cotton, film screenings, and numerous activist events that were organized around protesting GM crops.

Overview of the Book

In this book, I employ the framework of racial capitalism to explain why and how agricultural modernization in Burkina Faso is rife with contradictions. On the one hand, I observed widespread exploitation, debt, social

splintering, and the increased use of toxic chemicals and degradation of the land. Yet I also found many farmers and Burkinabè actively (albeit unevenly) taking part in and even desiring some of these changes. How can we make sense of this? Together, the chapters in this book demonstrate how economic coercion, ecological transformation, and cultural desires are deeply interwoven, yet fractured by disconnections. I frame aspirations for agricultural technologies as responses—even as complex forms of resistance—to a century of colonial and racialized capitalist exploitation. Just as President Thomas Sankara enacted anticolonial resistance by renaming his country “Burkina Faso,” “the land of upright people,” rural farmers today are actively seeking the ability to stand—upright—as modern members of the world rather than as bent-over labor for global capitalism. Nonetheless, agricultural modernization produces a cyclical compounding of ecological and social splintering that serves to deepen capitalist relations and inequalities.

In chapter 1, I explore the historical continuities and change that occurred between colonial systems of racialized labor exploitation and the contemporary system of cotton production in Burkina Faso, which continues to produce white gold: cotton, but also economic benefits that primarily go to White people while rural Africans “export their soil and their sweat.” In chapter 2, I argue that cotton production today—largely via the mechanism of debt—continues to tie farmers into an exploitative system. In Dioula, for instance, the word for “credit and debt” is the same as the word for “rope,” and farmers tellingly describe cotton debt as “having a rope around their necks.” The group-guaranteed system of reinsuring debt repayment helps protect bank profits but produces dramatic social harm for Burkinabè cotton producers: rising rural differentiation, escalating family tensions and splintering, and gendered labor exploitation. Although farmers creatively navigate the ecological and economic constraints that they face, the extension of credit-dependent agricultural technologies splinters the local social fabric and benefits only a handful of wealthier farmers.

In chapters 3, 4, and 5, I turn my attention beyond the material and political-economic forces of global capitalism to consider how the global color line also manifests in the realms of status and desire. I explore how differently positioned Burkinabè navigate their social status and structural location within a racialized system. Chapter 3 examines how modern agricultural technologies intersect with aspirations for the social and material status of racialized modernity. I argue that many Burkinabè interpret the hierarchy of capitalism through a racialized lens, wherein Whiteness

and Blackness signify structural positions within that hierarchy. Most rural folks are aware of their degraded and exploited position and *want* to “ka bo nogo la,” to “get out of the dirt”—the local phrase in Dioula that means development and progress. New agricultural technologies and capitalist agriculture offer an avenue out. Moreover, as chapter 4 examines, many of these new technologies offer rural people a tool to resist being the role of bent-over, exploited labor—either by global racial capitalism or by members of their own family. Junior men and women are increasingly rejecting their role as exploited labor, and families are increasingly splintering into smaller units. Here, I explore the nuances of cultural change and intersecting hierarchies of oppression.

Nonetheless, as differently situated people enact the status attributes of racialized modernity in a capitalist system, they can also justify and pass on exploitation. Chapter 5 examines how wealthier Burkinabè men working in the cotton sector pass exploitation on to rural and less educated men and rural women while justifying their own status within the system. I contend that these men draw on what I call the “wages of modernity” to assert masculine dignity and carve out livelihoods within a global structure of racial capitalism.

Having demonstrated the harm produced by this system, chapter 6 examines the structures of knowledge production that uphold mainstream approaches to agricultural development, shifting attention to what Sabelo Ndlovu-Gatsheni calls the global “epistemic” color line.⁹³ I consider how mainstream knowledge about agricultural modernization in Africa has roots in—and remains entangled with—colonial, racialized, and capitalist systems. Mainstream agricultural science continues to ignore structures of social inequality that profoundly shape both agrarian worlds and the lives of agricultural technologies. This disconnection has real material consequences. I focus on the case of GM Bt cotton to show how agronomic evaluation studies that propped up the introduction of this technology both ignored and reproduced structural inequalities.

Let us turn now to the cotton fields of Kongolekan.

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NOTES

Introduction

- 1 See Gray and Moseley, *Hanging by a Thread*.
- 2 Sissoko et al., "Agriculture in Sahel."
- 3 Bernstein, *Class Dynamics of Agrarian Change*, 23.
- 4 This story of crisis goes back decades. See Berry, "Food Crisis"; Watts, "Debating the Crisis."
- 5 Rock, *We Are Not Starving*.
- 6 Eddens, *Seeding Empire*; Ignatova, *Contesting Africa's New Green Revolution*; Moseley, Schnurr, and Bezner Kerr, *Africa's Green Revolution*; Rock, *We Are Not Starving*; Rock and Schurman, "Complex Choreography"; Schnurr, *Africa's Gene Revolution*; Schurman, "Micro (Soft) Managing."
- 7 Patel, "Long Green Revolution," 2.
- 8 A classic case of this argument is Robert Paarlberg's 2008 book *Starved for Science: How Biotechnology Is Being Kept out of Africa*. The cover features a photograph of an African girl bent over, hoeing.
- 9 Cullather, *Hungry World*; Dowd-Uribe, "Just Agricultural Science"; Freebairn, "Green Revolution"; Moseley, Schnurr, and Bezner Kerr, *Africa's Green Revolution*; Stone, *Agricultural Dilemma*.
- 10 Sylla, "2017 West Africa Cotton."
- 11 See Luna and Dowd-Uribe, "Knowledge Politics."
- 12 Dowd-Uribe and Schnurr, "Briefing."
- 13 This claim was later found to be exaggerated; see chapter 6 for more.
- 14 Dowd-Uribe and Schnurr, "Briefing"; Fok, "Impacts du coton-Bt"; Luna and Dowd-Uribe, "Knowledge Politics."
- 15 For more, see Luna, "Peasant Essentialism"; Luna and Dowd-Uribe, "Knowledge Politics."
- 16 Murray, *Cultivating Crisis*.
- 17 I found other herbicides like atrazine, diuron, nicosulfuron, metsulfuron methyl, and pendimethalin. Sofitex-supplied insecticides included diflubenzuron, malathion, profenofos, acetamiprid, cypermethrin, chlorpyrifos ethyl, teflubenzuron, indoxacarb, and lambda-cyhalothrin. I also found farmers using products intended for use in Ghana and Côte

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- d'Ivoire (which were imported into Burkina Faso illegally), including paraquat. Many of these products are classified as moderately hazardous by the World Health Organization (Class II), but listed as "Highly Hazardous" by the Pesticide Action Network (based on a broader range of criteria). Many have also been banned in Europe.
- 18 Bayili et al., "Characterization of Pesticides"; Haggblade et al., "Regulating Agricultural Intensification."
 - 19 Stein and Luna, "Toxic Sensorium," for a review of this literature.
 - 20 Schwartz, "Brève histoire."
 - 21 See chapter 6.
 - 22 Haggblade et al., "Regulating Agricultural Intensification."
 - 23 Mansfield et al., "New Critical Social Science"; Shattuck et al., "Global Pesticide Use and Trade."
 - 24 Adams, *Glyphosate*.
 - 25 Bayili et al., "Characterization of Pesticides"; Haggblade et al., "Regulating Agricultural Intensification"; Lehmann et al., "Water Contamination."
 - 26 Engels, "Peasant Resistance."
 - 27 Rogers, *Diffusion of Innovations*; Feder and Savastano, "Agricultural Technology Adoption."
 - 28 In this vein, see Amin, *Neo-Colonialism*; Bassett, *Peasant Cotton Revolution*; Berry, *No Condition Is Permanent*; Guyer, *African Niche Economy*; Iliffe, *Emergence of African Capitalism*; Piot, *Remotely Global*; Watts, *Silent Violence*.
 - 29 Cochrane, *Development of American Agriculture*; Ward, "Agricultural Treadmill." In Cochrane's classic formulation, as more farmers adopt a new technology, overall farm output increases but prices fall, further compelling all farmers to adopt output-boosting technology to stay afloat. In broader usage, the treadmill concept often refers to the broader landscape of political-economic drivers that necessitate shifts toward input-intensive agriculture, including how costs of new technologies (debt) further compel increased production. See Galt, "Homo Economicus"; and Stone and Flachs, "Ox Fall Down." Technology becomes essential for staying afloat and yet also locks farmers into a productivist and competitive farming system in which some farmers get ahead and others fall behind.
 - 30 For a readable and terrific overview of sociological literature on why people consent to domination, ranging from theories of false consciousness to making out to mystification, see Burawoy and von Holdt, *Conversations with Bourdieu*.
 - 31 For relevant applications, see Castellanos-Navarrete and Jansen, "Why Do Smallholders Plant Biofuel Crops?"; Goldman, *Imperial Nature*; Jakobsen, "Gramscian Food Regime"; Yeh, *Taming Tibet*.
 - 32 The question of whether to foreground the material (the relations and means of production) versus the discursive (meaning-making structures, knowledge, and cultural ideologies) has been a persistent tension in scholarship from the times of Georg Wilhelm Friedrich Hegel and Karl

Marx to the poststructuralist debates of the 1980s and 1990s, with many scholars ultimately recognizing their inherent mutuality, interaction, or even coconstitution. In this book, I seek to draw the two together, working hard to not place them into separate realms but recognizing their entanglement—or, in the tradition of Stuart Hall, their articulation. See Hart, *Disabling Globalization*.

- 33 Bassett, *Peasant Cotton Revolution*; Berry, *No Condition Is Permanent*.
- 34 Li, *Land's End*. More broadly, environmental sociologists and agrarian scholars find that rural people sometimes go along with exploitative systems because of economic dependence, but also because of cultural meanings, identity work, and status aspirations. Bell and York, "Community Economic Identity"; Jakobsen, "Gramscian Food Regime"; Lapegna, *Soybeans and Power*; Leguizamón, *Seeds of Power*; Malin, *Price of Nuclear Power*.
- 35 Luna, "Peasant Essentialism."
- 36 See Agarwal, "Food Sovereignty"; Bernstein, "Food Sovereignty"; Brass, *Peasants, Populism, and Postmodernism*; Jansen, "Debate on Food Sovereignty"; Li, "Can There Be Food Sovereignty?"
- 37 Bell, *Farming for Us All*; Burton, "Seeing Through the 'Good Farmer's' Eyes"; Flachs, *Cultivating Knowledge*; Luna, "Out of the Dirt."
- 38 Kothari, "Critiquing 'Race'"; Patel, "Race and a Decolonial Turn"; Pierre, *Predicament of Blackness*; White, "Thinking Race"; Wilson, *Race, Racism and Development*.
- 39 Pierre, *Predicament of Blackness*.
- 40 Escobar, *Encountering Development*; Ferguson, *Anti-Politics Machine*; Hall, "West and Rest"; Kapoor, *Postcolonial Politics of Development*; Spivak, "Can Subaltern Speak?"
- 41 This clarification is significant, given the many critiques that have arisen regarding certain uses (or misinterpretations) of the concept of racial capitalism. My thinking largely aligns with Julian Go's recent interventions ("Three Tensions"; "Theorizing Racial Capitalism") and draws on Nancy Folbre's formulation of an intersectional political economy (*Rise and Decline of Patriarchal Systems*).
- 42 This exponential rise is illustrated by the number of hits for "racial capitalism" in Google Scholar: 2001–2005: 351; 2006–2010: 580; 2011–2015: 1,280; 2016–2020: 6,380; 2021–2025: 18,700. I draw, for example, on Kelley, "What Is Racial Capitalism?"; Bhattacharyya, *Rethinking Racial Capitalism*; Go, "Three Tensions"; Matlon, *Man Among Other Men*; Melamed, "Racial Capitalism"; and Pulido, "Flint."
- 43 I do not aim to intervene in certain theoretical debates: that is, about what Marx or Cedric Robinson really meant; Ralph and Singhal, "Racial Capitalism." I am also not engaging in Robinsonian origin debates over whether or how racism/racialization existed prior to capitalism (which would require deeper historical data). Others debate whether capitalism is always necessarily racialized (the "What about China?" question).

Julian Go (“Three Tensions”) contends that capitalism (in the abstract) necessarily relies on some form of social difference, though this does not logically or inherently have to be racial. But historical capitalism has been, in many if not most manifestations, racialized. This isn’t just White/Black binaries, but various forms of racialized difference that render social difference biological in nature; this can overlap with caste or religious exclusions, for example, as well as structures of patriarchy; Folbre, *Rise and Decline of Patriarchal Systems*. I thus take what Julian Go (“Theorizing Racial Capitalism”) has recently called a “contingency-contextual” approach to thinking about the articulations of race and capitalism without positing universalist claims or claims of logical necessity.

- 44 Robinson, *Black Marxism*, 2.
- 45 Matlon, “Ten Theses.”
- 46 Itzigsohn and Brown, *Sociology of Du Bois*, 235, discuss the affinities between a world-systems analysis and a Du Boisian historical sociology. See also Wallerstein, *World-Systems Analysis*, 41.
- 47 Numerous scholars of racial capitalism and related forms of analysis highlight the importance of studying political-economic structures of capitalism along with paying close attention to racialized structures of meaning-making. Bonilla-Silva, *Racism Without Racists*; Itzigsohn and Brown, *Sociology of Du Bois*; Matlon, “Ten Theses”; Morris et al., “Racism, Colonialism, and Modernity”; Pulido, “Geographies of Race and Ethnicity II.”
- 48 On historical and contextual specificity, see Chari, “Interlocking Transactions.” On being made and brought into being, see Appel, *Licit Life*. On intersecting with other structures of power, see Folbre, *Rise and Decline*.
- 49 Jenkins and Leroy, *Histories of Racial Capitalism*, 33, 25 (emphasis added).
- 50 Al-Bulushi, “Thinking from Africa”; Levenson and Paret, “Three Dialectics”; Miapen and Bozkurt, “Racial Capitalism in Africa”; Phiri, “Historical Racial Capitalism in Africa;” For the few recent efforts to theorize this in agrarian worlds, see Dieng, “Racial Capitalism and Horticultural Labour in Senegal”; and Chari, “Interlocking Transactions.”
- 51 Mbembe, *Critique of Black Reason*; Tonda, *Afrodystopie*. Tonda’s analysis is strikingly similar to my own, though more theoretical. He identifies how capitalism has created a value system and an unconscious world of dreams that is fully capitalist and racialized: “The man who counts is a man who has value [money] . . . the White [is] the man who counts, whose homeland is money” (17; translated from French).
- 52 Kothari, “Critiquing ‘Race’”; Niles, “Colorblind Racism”; Patel, “Race and a Decolonial Turn”; Pierre, “Racial Vernaculars of Development”; Wilson, *Race, Racism and Development*.
- 53 Pierre, *Predicament of Blackness*, 1.
- 54 Matlon, *Man Among Other Men*.
- 55 The Plantationocene concept contrasts with the idea of the Anthropocene, which tends to distribute blame evenly among all humans. It also

- contrasts with the idea of the Capitalocene, which blames capitalism without naming or identifying the centrality of racism and colonialism. See Davis et al., “Anthropocene, Capitalocene, . . . Plantationocene?”; Ferdinand, *Decolonial Ecology*; Li and Semedi, *Plantation Life*; McKittrick, “Plantation Futures”; Murphy and Schroering, “Refiguring the Plantationocene”; Wolford, “The Plantationocene.”
- 56 Arabindan-Kesson, *Black Bodies, White Gold*; Baptist, *Half Never Told*; Beckert, *Empire of Cotton*; Ferdinand, *Decolonial Ecology*; Johnson, *River of Dark Dreams*; Lowe, *Intimacies of Four Continents*; Younis, *Scale of the World*. As Younis highlights, African and Black Atlantic anticolonial writers have long examined these connections.
- 57 Bhattacharyya, *Rethinking Racial Capitalism*, 8. Other approaches include Ferdinand, *Decolonial Ecology*; Murphy, “Anticolonial Environmental Sociology”; and Laura Pulido’s examinations of the intersections of racial capitalism and environmental racism (“Flint”).
- 58 Melamed, “Racial Capitalism,” 78.
- 59 Foster, Clark, and York, *Ecological Rift*. Moore, *Capitalism in Web of Life*.
- 60 Christian, “Global Critical Race Framework”; Christian, *Global Journey of Racism*; Go, “Postcolonial Possibilities”; Itzigsohn and Brown, *Sociology of Du Bois*; Mbembe, *Out of the Dark Night*; Morris, *Scholar Denied*; Morris et al., “Racism, Colonialism, and Modernity”; Murphy, “Anticolonial Environmental Sociology”; Myers, “Beyond Psychological Wage”; Norgaard, *Salmon and Acorns*. Also note that I cannot untangle the complexity of debates and terms related to postcolonial, anticolonial, and decolonial scholarships and movements, particularly in different geographies. More work is needed here.
- 61 Fields and Fields, *Racecraft*; Roberts, *Fatal Invention*; Smedley and Smedley, *Race in North America*.
- 62 Mbembe, *Critique of Black Reason*; Younis, *Scale of the World*.
- 63 Omi and Winant, *Racial Formation*.
- 64 Omi and Winant, *Racial Formation*, 111.
- 65 Hesse, “Racialized Modernity,” 643.
- 66 Drawing on Charles Mills, Jemima Pierre argues that “to be racialized—to be ‘Black’ or ‘White’ or ‘Asian’—in a world where White power is naturalized is to always be structured in hierarchical relation to that power.” *Predicament of Blackness*, 225.
- 67 Bhattacharyya, *Rethinking Racial Capitalism*; Matlon, *Man Among Other Men*.
- 68 Federici, *Caliban and Witch*; Mies, *Patriarchy and Accumulation*.
- 69 Hart, “Development Critiques,” 655.
- 70 Kothari, “Critiquing ‘Race’”; Pierre, “Racial Vernaculars of Development”; Wilson, *Race, Racism and Development*.
- 71 Stoler, *Duress*.
- 72 For example, Gillian Hart and Zach Levenson, drawing on Stuart Hall, promote the framework of “articulation” (at once both “joining together”

- and “giving expression to”) as a means to move beyond “impact models” and pay attention to how people construct and contest both materiality and meaning in articulation with the limits and constraints imposed by global racial capitalisms. Hart, *Disabling Globalization*; Levenson, “Make ‘Articulation’ Gramscian Again.”
- 73 Mavhunga, *Science from Africa*, 1.
- 74 Mavhunga, *Science from Africa*, 2, 5.
- 75 Twagira, *Embodied Engineering*.
- 76 Following scholars like Twagira, more scholars of contemporary agricultural change—myself included—should pay closer attention to the African technology, innovation, and engineering that escapes narrow Western definitions of technology.
- 77 Kloppenburg, *First the Seed*; Stone, “Agricultural Deskillling.”
- 78 Gerber, “Hidden Consequences,” 856.
- 79 For scholarship on the pivotal role of capitalism in the emergence of agrochemicals, see Goodman et al., *From Farming to Biotechnology*; and Kloppenburg, *First the Seed*. Agrochemicals are also a by-product of war (see Russell, *War and Nature*), and of the fossil fuel industry (see Elmore, “Commercial Ecology”; and Romero, *Economic Poisoning*).
- 80 See Williams, “Fabric of Our Lives”; Williams, “That We May Live”; Williams and Porter, “Cotton, Whiteness, and Other Poisons”; Murray, *Cultivating Crisis*.
- 81 Guthman, *Wilted*.
- 82 Goodman et al., *From Farming to Biotechnology*; Kloppenburg, *First the Seed*.
- 83 Clark and Foster, “Ecological Imperialism.”
- 84 Guthman, *Wilted*; Castro-Vargas and Werner, “Pesticide Chip.”
- 85 Adams, *Glyphosate*; Murphy, *Sick Building Syndrome*; Nading, “Toxic World”; Shattuck, “Risky Subjects”; Shattuck, “Toxic Uncertainties”; Stein and Luna, “Toxic Sensorium”; Tesh, *Uncertain Hazards*.
- 86 Mbembe, *Out of the Dark Night*.
- 87 In her work in Ghana, Jemima Pierre commented on the importance of researcher reflexivity on how “the special treatment afforded Whites is directly linked to the reality of White positionality in Ghana and beyond, and to assumptions about the status of White people . . . this privilege is literally embodied in their White skin.” *Predicament of Blackness*, 85.
- 88 See Jordanna Matlon’s discussion of her standpoint as a mixed-race woman in Côte d’Ivoire, Jemima Pierre’s discussions of being a darker-skinned Black American in Ghana, and Batamaka Somé’s insider perspectives on the cotton sector in Burkina Faso. Matlon, *Man Among Other Men*; Pierre, *Predicament of Blackness*; Somé, “Hot Money.” Adding these perspectives and considering how each embodied perspective adds a new layer of understanding is precisely what I mean.

- 89 Harding, *Feminist Standpoint Reader*; Harding, *Postcolonial Reader*. For a highly readable orientation to these arguments, see Oreskes, *Why Trust Science?*
- 90 Blaikie and Brookfield, *Land Degradation*; Burawoy, *Global Ethnography*; Hart, "Geography and Development"; Watts, *Silent Violence*.
- 91 Where quotation marks are used, this is either a translated quote from a recorded interview or when I was able to immediately write what I observed in my field notebook and include a very close proximity to what was said. Otherwise, I recount conversations without quotation marks.
- 92 See also Luna, Chalit Hernandez, and Sawadogo, "Paradoxes of Purity."
- 93 Ndlovu-Gatsheni, *Epistemic Freedom*.

Chapter One. White Gold

Snippets of this chapter were published in Jessie K. Luna, "The Chain of Exploitation: Intersectional Inequalities, Capital Accumulation, and Resistance in Burkina Faso's Cotton Sector," *Journal of Peasant Studies* 46, no 7 (2019): 1413–34.

- 1 "Mossi" is now written in Burkina Faso as "Moose," but I have opted for "Mossi" given its long-standing use and to avoid confusion with ungu-
lates for Anglophone readers.
- 2 Boni, *Crépuscule des temps anciens*; Saul and Royer, *West African Challenge*.
- 3 While I did not conduct a representative survey, I was given access to many farming groups' records showing their seed and input requests, including acreage. Sofitex provided me with extensive data. I treat all this data as rough estimates, given the complexities of gathering accurate statistics. See Luna and Dowd-Urbe, "Knowledge Politics."
- 4 Gray and Kevane, "Evolving Tenure Rights"; Kevane and Gray, "A Woman's Field."
- 5 Farmers on "borrowed" land told me that they are generally confident that they will continue to have the right to use their land, but they cannot sell land or transfer it to a different family. In general, the only way that farmers can lose the right to farm their land is by committing a serious moral taboo (such as murder) that would upset the balance of spirits. Some of these farmers also report paying small, token payments to the land "owners" each year, such as a small sack of corn. In the meantime, farmers operate on land obtained through family agreements. During my research, mining companies were surveying the area and had begun offering to buy land from nearby farmers.
- 6 One could also explore how unruly natures have exerted resistance to this system, but I do not take up that question here.
- 7 Itzigsohn and Brown, *Sociology of Du Bois*, 7.