

Book Review

Rice: Global Networks and New Histories

*Edited by Francesca Bray, Peter A. Coclanis, Edda L. Fields-Black,
and Dagmar Schäfer*
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David Dawe

Senior Economist

FAO Regional Office for Asia and the Pacific

David.Dawe@fao.org

A great book to read for all students of food and agriculture. It is a history book above all else, but like most good history, many of the stories it contains are highly relevant to today's policy debates.

Rice: Global Networks and New Histories is an edited collection of “stories” on a wide range of historical topics that revolve around rice. There is something of interest for just about anyone concerned with the history of food and agriculture—the papers span the entire value chain, from agricultural research and biodiversity to production, trade and entrepreneurship, consumption, and human health. The papers similarly span the globe—Asia, Africa, and the Americas. Although the papers are grouped into three loose themes (purity and promiscuity, environmental matters, and power and control), each of the different chapters stands on its own and can be read in isolation. Thus, different readers will be more or less interested in different chapters depending upon the location and focus of each particular story. Each chapter also contains ample citations for further reading—the collective list of references runs to 44 pages (well over 700 references in total).

Most of the authors of this book are associated with the history departments at their respective institutions. The papers are usually concerned with events prior to World War II at the most recent, and often go back several centuries, but this should not discourage those interested primarily in current events and policies. Most readers will be amazed at how many of the “new” issues we discuss today are not so new after all—dietary diversification, globalization, producer responses to changing weather patterns, and attempts to achieve self-sufficiency in the wake of world market price spikes are all discussed in the book, drawing on specific examples in a pre-World War II context. Those who forget the past are condemned to repeat it!

While it certainly touches on economics in many places, *Rice* is quite interdisciplinary in nature, and this is one of its key strengths—it touches on genetics, hydraulic engineering, slavery, sociology, linguistics, gender relations, and the importance of individual personalities, among other topics, all of which have impacts in the real world and should guide our policies. Agricultural economists in Asia would do well to read at least parts of this book, as there is

much for us to learn from different perspectives, especially since economic history is taught less today in graduate programs than it was 25 years ago.

The first section of the book consists of six chapters, five of which concern primarily Asia, and one Africa. The chapters on China and Africa offer some particularly interesting stories. In the chapter by Sui-Wai Cheung, we learn that in 18th century China, farmers were not just subsistence producers. They grew rice for the market, with a range of different varieties available, all fetching different prices (so at least semi-sophisticated value chains existed three hundred years ago!). Sweet potatoes were a common food for the poor in southern China at that time, with rice consumption increasing as people became richer. Rice, thus, exhibited the characteristics of a normal good at that time and place, in contrast to today, when in many cases it behaves as an inferior good, or in some cases exhibits Giffen behavior (Jensen and Miller 2008).

The chapter by Seung-Joon Lee discusses how ethnic Chinese came to dominate the international Asian rice trade, and we learn that domestic traders were cheating other traders (and presumably farmers as well, using some other clever technique) more than a hundred years ago by watering the rice before it was weighed in order to increase the weight. We learn about the importance placed by the nationalist Chinese on achieving rice self-sufficiency in preparation for what was seen as an inevitable war with Japan, based on the lessons Sun Yat-sen drew from Germany's defeat in World War I. These strategies also had implications for the allocation of agricultural research funding, as there were conflicts between staple crop plant breeding and work on more value-added products such as fruits, vegetables, and dairy. All this in early 20th century China, well before the modern era of dietary diversification!

The final chapter in this section, by Bruce Mouser et al., traces some of the history of rice cultivation in Western Africa, and we see that, just like today, rice was not rice was not rice (Slayton and Muniroth 2012). Red rice was grown for slave ships (to feed the slaves during their perilous journey across the Atlantic) and white rice was grown for the abolitionist settlement at Freetown and for export. The end of the international slave trade reduced the demand for red rice, and white rice (Carolina rice from the US) became more common as an item of legitimate commerce. Most important, we learn about the ingenuity of smallholding African farmers, who bred many new varieties by crossing Asian and African strains to fit widely varying local ecological conditions and satisfy local variations in consumer demand. We also learn that Sierra Leone used to be a rice exporter until the 1930s, when the demise of the slave labor system raised labor costs and made local production uncompetitive, especially in the context of low commodity prices during the Great Depression.

The second section is focused on environmental matters in Africa (impacts of drought, genetic dispersal, and adaptation to different micro-environments), although there is also one chapter on water management in the Americas and one on human health in South Asia. The chapter on health and harvests by Lauren Minsky was particularly interesting in its argument that increased intensification (use of irrigation water and organic manure¹) led to negative impacts on human health, specifically an increased incidence of malaria and cholera, in two quite distinct ecosystems—Punjab and Bengal. This research is especially important in light of recent work on Africa that estimates

¹ The increased use of manure was not only for agriculture, but also for fuel, as wood became scarcer due to deforestation.

an increased incidence of malaria in areas near dams (Kibret et al. 2015). Despite several hints that this intensification was driven by external export demand, no data are presented to sort through the probable relative contributions to demand from domestic population and income growth and exports. I suspect that exports were a relatively small share of increased demand, relative to population and income growth. Nevertheless, the impacts of cultivation on human health deserve much more attention than they typically receive.

While the entire book is interesting, the third and final section of the book was overall the best, from my point of view. The first chapter by Walter Hawthorne documents the physical difficulties of rice cultivation in Amazonia and the injuries and punishment suffered by many of the slaves. He contrasts it with the situation in Upper Guinea, where mangrove cultivation was also physically difficult but at least came with social rewards such as membership in elders' councils.

The chapter by Peter Coclanis describes the emergence of the modern US rice sector in southwest Louisiana (more capital-intensive, borrowing insights and technologies from wheat production in the Midwest, leading to much higher labor productivity in the South) and the decay of the Atlantic rice sector in South Carolina and Georgia (labor-intensive). The switch from the Atlantic to the South was due to several factors: competition from cotton in the Atlantic, greater availability of irrigation water in the South compared to costly maintenance of dike systems in the Atlantic, and an emerging global rice market with increased competition from Asian rice that took away the markets for Atlantic rice in the UK, Germany, and the Netherlands. The process of change was driven by entrepreneurs, scientists, and farmers from, oddly enough, Iowa (many farmers in Iowa and surrounding states migrated South due to

drought in the Midwest). Due to the decay of the Atlantic rice systems, the US had become a rice importer by 1879, but became an exporter again with the rise of Louisiana, Texas, and Arkansas rice production.

The chapter by Penelope Francks describes the role of rice in Japanese agricultural and industrial growth, which was more labor-intensive and equitable than growth in Western societies. Industry adapted to seasonal agricultural labor demand, and farms stayed small (either owned or rented) due to the importance of knowledge and skill in rice cultivation. Farm households began to get an increasing share of their income from non-farm activities even during the Tokugawa period (in the 1840s, anywhere from 20–30% up to 70% depending upon the area), foreshadowing a key trend in Asia today that is often not sufficiently appreciated by those of us focused on agriculture. As noted earlier for 18th century China, rice was a luxury good for many years, preferred by urban consumers and rich rural consumers to coarse grains. The culture of rice consumption involved more than just the grain itself—it also depended upon use of the proper utensils, suitable cooking equipment (stoves), and processed accompaniments (soy sauce).

Last, but certainly not least, the final chapter by Harro Maat describes the experience of trying to intensify rice production in Sumatra in the wake of the 1918 international rice price spike in order to maintain a supply of cheap rice to the plantation (tobacco, oil palm, rubber) workers. Mechanized farming *a la* California was tried despite the objections of technical experts, but failed. Transmigration from Java was also tried (it was assumed that the Javanese were more industrious than the Sumatrans), but that did not create a surplus either. The mechanized scheme on Sumatra was mooted in Borneo but never implemented; it also failed in Surinam ten years later. The Dutch director of the Department

of Agriculture who had promoted the scheme faced political opposition for the failure, and eventually he resigned. All in all, the chapter is a cautionary tale for expensive schemes that aim to achieve self-sufficiency in a short period of time.

Perhaps the main weakness of the book is that some of the chapters are a little too narrow and specific, and may have little to say about broad policy debates. On the other hand, my feelings in this regard may just be due to my particular preferences for certain topics or regions. Indeed, one of the things I enjoy most about reading history is that it typically discusses specific events in a very concrete manner, without resorting to overly vague generalizations that are impossible to disagree with. As I have been told many times by my mentors, three facts always beat a theory. Overall, this book is full of specific facts that can shine light on many key policy issues today. It is well worth reading cover to cover, and is worth a large number of theories.

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