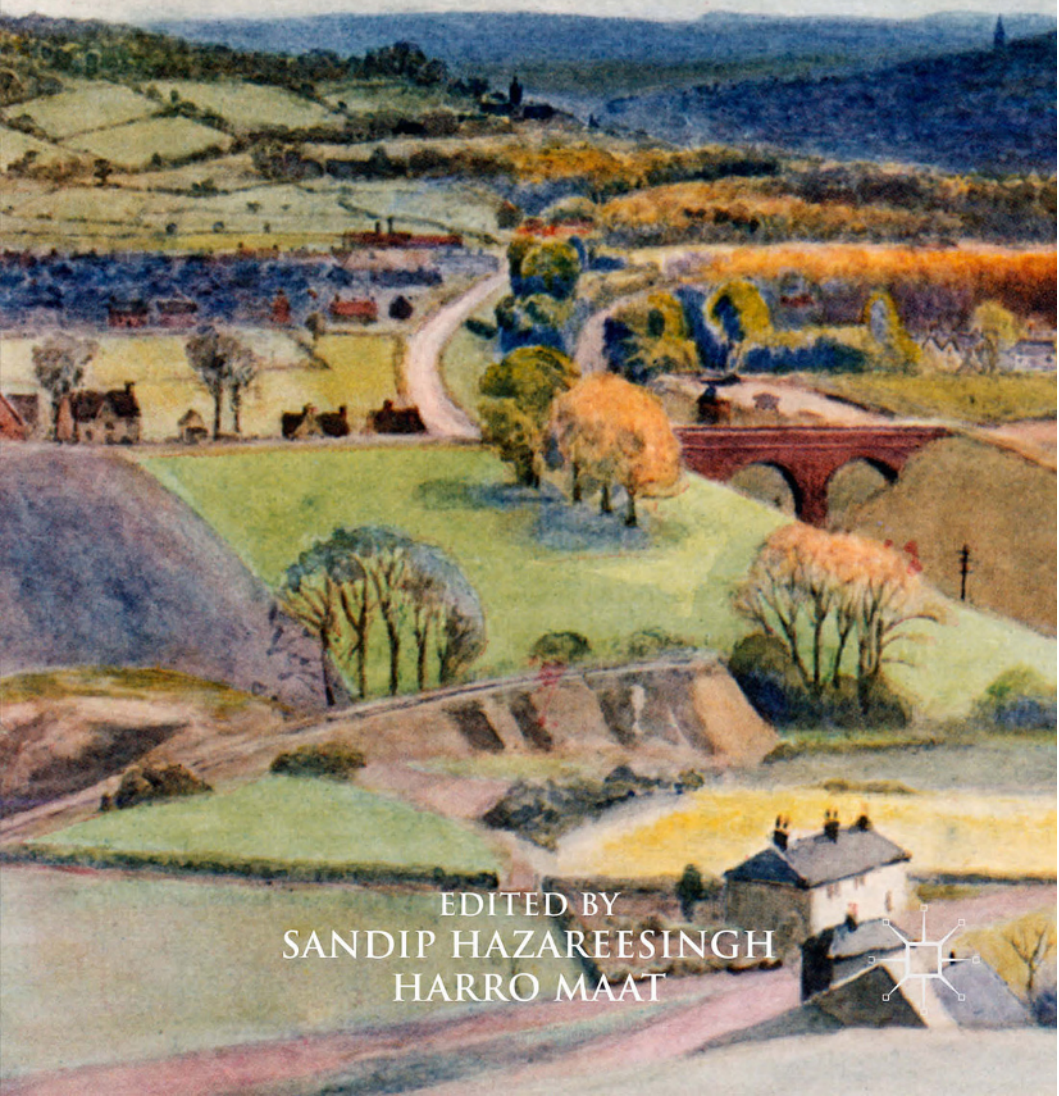
CAMBRIDGE IMPERIAL & POST-COLONIAL STUDIES

LOCAL SUBVERSIONS OF COLONIAL CULTURES

COMMODITIES AND ANTI-COMMODITIES IN GLOBAL HISTORY



EDITED BY
SANDIP HAZAREESINGH
HARRO MAAT

Cambridge Imperial and Post-Colonial Studies Series

General Editors: **Megan Vaughan**, Kings' College, Cambridge, and **Richard Drayton**, King's College London

This informative series covers the broad span of modern imperial history while also exploring the recent developments in former colonial states where residues of empire can still be found. The books provide in-depth examinations of empires as competing and complementary power structures encouraging the reader to reconsider their understanding of international and world history during recent centuries.

Titles include:

Miguel Bandeira Jerónimo
THE 'CIVILISING MISSION' OF PORTUGUESE COLONIALISM, 1870–1930

Miguel Bandeira Jerónimo and António Costa Pinto
THE ENDS OF EUROPEAN COLONIAL EMPIRES
Cases and Comparisons

Gregory A. Barton
INFORMAL EMPIRE AND THE RISE OF ONE WORLD CULTURE

Rachel Berger
AYURVEDA MADE MODERN
Political Histories of Indigenous Medicine in North India, 1900–1955

Ulbe Bosma and Anthony Webster
COMMODITIES, PORTS AND ASIAN MARITIME TRADE SINCE 1750

Rachel Bright
CHINESE LABOUR IN SOUTH AFRICA, 1902–10
Race, Violence, and Global Spectacle

Larry Butler and Sarah Stockwell
THE WIND OF CHANGE
Harold Macmillan and British Decolonization

Esme Cleall
MISSIONARY DISCOURSE
Negotiating Difference in the British Empire, c.1840–95

T. J. Cribb (*editor*)
IMAGINED COMMONWEALTH
Cambridge Essays on Commonwealth and International Literature in English

Bronwen Everill
ABOLITION AND EMPIRE IN SIERRA LEONE AND LIBERIA

Anna Greenwood and Harshad Topiwala
INDIAN DOCTORS IN KENYA, 1890–1940

Sandip Hazareesingh and Harro Maat (*editors*)
LOCAL SUBVERSIONS OF COLONIAL CULTURES
Commodities and Anti-Commodities in Global History

Róisín Healy and Enrico Dal Lago (*editors*)
THE SHADOW OF COLONIALISM IN EUROPE'S MODERN PAST

Leslie James
GEORGE PADMORE AND DECOLONIZATION FROM BELOW
Pan-Africanism, the Cold War, and the End of Empire

Robin Jeffrey
POLITICS, WOMEN AND WELL-BEING
How Kerala Became 'a Model'

Gerold Krozewski
MONEY AND THE END OF EMPIRE
British International Economic Policy and the Colonies, 1947–58

Zoë Laidlaw and Alan Lester (*editors*)
INDIGENOUS COMMUNITIES AND SETTLER COLONIALISM
Land Holding, Loss and Survival in an Interconnected World

Sophus Reinert and Pernille Røge
THE POLITICAL ECONOMY OF EMPIRE IN THE EARLY MODERN WORLD

Jonathan Saha
LAW, DISORDER AND THE COLONIAL STATE
Corruption in Burma c.1900

John Singleton and Paul Robertson
ECONOMIC RELATIONS BETWEEN BRITAIN AND AUSTRALASIA 1945–1970

Leonard Smith
INSANITY, RACE AND COLONIALISM
Managing Mental Disorder in the Post-Emancipation British Caribbean, 1838–1914

Alex Sutton
THE POLITICAL ECONOMY OF IMPERIAL RELATIONS
Britain, the Sterling Area, and Malaya 1945–1960

Miguel Suárez Bosa
ATLANTIC PORTS AND THE FIRST GLOBALISATION c. 1850–1930

Jerome Teelucksingh
LABOUR AND THE DECOLONIZATION STRUGGLE IN TRINIDAD AND TOBAGO

Julia Tischler
LIGHT AND POWER FOR A MULTIRACIAL NATION
The Kariba Dam Scheme in the Central African Federation

Erica Wald
VICE IN THE BARRACKS
Medicine, the Military and the Making of Colonial India, 1780–1868

Anna Winterbottom
HYBRID KNOWLEDGE IN THE EARLY EAST INDIA COMPANY WORLD

Cambridge Imperial and Post-Colonial Studies Series
Series Standing Order ISBN 978–0–333–91908–8 (Hardback)
978–0–333–91909–5 (Paperback)
(*outside North America only*)

You can receive future titles in this series as they are published by placing a standing order. Please contact your bookseller or, in case of difficulty, write to us at the address below with your name and address, the title of the series and the ISBN quoted above.

Customer Services Department, Macmillan Distribution Ltd, Houndmills, Basingstoke, Hampshire RG21 6XS, England

Local Subversions of Colonial Cultures

Commodities and Anti-Commodities in Global History

Edited by

Sandip Hazareesingh
Research Fellow, The Open University, UK

and

Harro Maat
Lecturer, Wageningen University, The Netherlands

palgrave
macmillan

Softcover reprint of the hardcover 1st edition 2016 978-1-137-38109-5

First published 2016 by
PALGRAVE MACMILLAN

Palgrave Macmillan in the UK is an imprint of Macmillan Publishers Limited, registered in England, company number 785998, of Houndmills, Basingstoke, Hampshire RG21 6XS.

Palgrave Macmillan in the US is a division of St Martin's Press LLC, 175 Fifth Avenue, New York, NY 10010.

Palgrave Macmillan is the global academic imprint of the above companies and has companies and representatives throughout the world.

Palgrave® and Macmillan® are registered trademarks in the United States, the United Kingdom, Europe and other countries.

ISBN 978-1-349-56529-0 ISBN 978-1-137-38110-1 (eBook)
DOI 10.1057/9781137381101

This book is printed on paper suitable for recycling and made from fully managed and sustained forest sources. Logging, pulping and manufacturing processes are expected to conform to the environmental regulations of the country of origin.

A catalogue record for this book is available from the British Library.

Library of Congress Cataloging-in-Publication Data
Hazareesingh, Sandip, author
Local subversions of colonial cultures : commodities and anti-commodities in global history / Sandip Hazareesingh, Harro Maat.
pages cm

1. Agriculture—Economic aspects—Africa—History. 2. Agriculture—Economic aspects—Asia—History. 3. Agriculture—Economic aspects—Caribbean—History. 4. Produce trade—Africa—History. 5. Produce trade—Asia—History. 6. Produce trade—Caribbean Area—History. 7. Africa—Colonies—Administration—History. 8. Asia—Colonies—Administration—History. 9. Caribbean Area—Colonies—Administration—History. I. Maat, Harro, author. II. Title.
HD2117.H39 2015
338.1—dc23 2015021908

Contents

Illustrations

Tables

Figures

Acknowledgements

The origins of this book lie in the collaborative research project 'Commodities and Anti-Commodities: indigenous production as sustainable practice and resistance against agrarian commercial capitalism in Africa, Asia, and the Caribbean during the colonial era' funded by the Humanities division of the Netherlands Organisation for Scientific Research (NWO). The project lasted from 2009 to 2013 and involved an institutional collaboration between the Technology and Agrarian Development group at Wageningen University, the Netherlands and the Ferguson Centre for African and Asian Studies at the Open University, UK. The Ferguson Centre jointly hosted the British Academy-funded Commodities of Empire research project with the Institute for the Study of the Americas at London University's School of Advanced Study. The 'Commodities and Anti-Commodities' project drew in scholars from all these institutions and research groups who shared a commitment to explore the networks and processes through which primary commodities were produced historically, and to assess the differential impact of these processes on producers, consumers, regions and societies in both 'south' and 'north'. The project held two workshops, the first at the International Institute of Social History, Amsterdam in June 2010, and the second at Wageningen University in September 2012. The workshops brought together early career as well as established historians, anthropologists and development scholars to present and discuss state-of-the-art research on commodity histories. This volume presents a selection of the papers originally produced for the second workshop.

Conceptually, this book is the result of the collective and lively deliberations held over many years and owes much to the kind support and participation of many colleagues. We would like to express our gratitude to the authors and all the participants of the workshops, as well as to those who have been otherwise involved during various stages of the project. We owe a special thanks to Paul Richards and to his tireless efforts to popularise the concept of 'anti-commodity'. We would also like to thank the editors of the Palgrave Cambridge Imperial and Post-Colonial Studies Series, Richard Drayton

and Megan Vaughan, and Jade Moulds, Holly Tyler, Jenny McCall and the staff at Palgrave Macmillan for their help and (considerable) patience.

Sandip Hazareesingh and Harro Maat
Milton Keynes and Wageningen, April 2015

Contributors

Jonathan Curry-Machado is a coordinator of the British Academy Research Project 'Commodities of Empire' (Open University/University of London), and was formerly a fellow at the University of Wageningen in the 'Commodities and Anti-Commodities' research programme. His publications include *Cuban Sugar Industry* (Palgrave Macmillan, 2011) and *Global Histories, Imperial Commodities, Local Interactions* (Palgrave Macmillan, 2013).

Erik Gilbert is Professor of History at Arkansas State University. His work focuses on East Africa and its connections with the Indian Ocean world. Most recently he has been working on the spread of Asian rice to East Africa and its subsequent diffusion from coast to interior.

Sandip Hazareesingh is a research fellow in the History Department at the Open University, UK. He is Co-Director of the British Academy Research Project Commodities of Empire and principal investigator of the AHRC-funded Commodity Histories project. He is the author of *The Colonial City and the Challenge of Modernity* (2007) and is currently working on a history of climatic vulnerability and food security among peasant smallholders in colonial western India.

David Hyde is Lecturer in Development Studies at the University of East London. He is currently working on a book on Labour, Development and Resistance in Kenya, which examines trade union development and labour disputes in Kenya's plantation sector, industrial production, railways and local government after 1945.

Harro Maat is a Sociologist and Historian of Agricultural Science and Technology at the Knowledge, Technology and Innovation group of Wageningen University. His work focuses on crop improvement in the colonial period and current (bio)technologies for international development in India, South East Asia and Africa.

Simeon Maravanyika is a lecturer in the Department of Historical and Archaeological Studies at the University of Zambia. He is currently finalising his dissertation at the Knowledge, Technology and Innovation

(KTI) Group at Wageningen University. His PhD research is on the interface between colonial commodity policies and peasant anti-commodity production in Zimbabwe.

Lauren Minsky is Assistant Professor of History at New York University Abu Dhabi. Her research integrates histories of environment, health and healing in the wider Indian Ocean region. She has received fellowships including Fulbright-Hays, SSRC, FLAS and Mellon, and she was previously a member of the Institute for Advanced Study in Princeton.

Paul Richards is an anthropologist who has worked in West Africa (Nigeria, Sierra Leone and Liberia) since the late 1960s. He was for some years Professor of Technology and Agrarian Development at Wageningen University. He has published on peasant agriculture, food security and civil wars, and is currently working on a book about the 2014–15 epidemic of Ebola virus disease in Upper West Africa.

Kathinka Sinha-Kerkhoff is affiliated to the Asian Development Research Institute in India and the International Institute of Social History in the Netherlands. She has published on a wide range of topics. She received a Senior Academic Fellowship from the Indian Council of Historical Research (ICHR), New Delhi and conducts research on the history of tobacco consumption in Eastern India.

Introduction

Sandip Hazareesingh and Harro Maat

This book brings together recent research on how local people in Africa, Asia and the Caribbean, primarily making a living from the land, critically engaged with the new commercial crop imperatives fostered by European colonial rule. In much of the existing literature on the subject, European empires' attempts to derive commodities-based wealth from plants in different parts of the colonial world have tended to be viewed, in the words of one historian, as a 'remarkably successful' enterprise.[1] Accounts of the transfer of commercially valuable new crops and commodities from colonies to metropoles are now very familiar, as are narratives about the transformation of entire societies through their forced specialisation in 'the production of some raw material, food crop or stimulant'.[2] The focus on the hegemonic, all-conquering drive of commodities made possible by European conquests, discoveries and appetites, and delivered by oppressive modes of production from slavery to industrial capitalism, has tended to obscure from view alternative and more subtle outcomes resulting from the multitude of ways in which different local peasant producers engaged with these processes.

In contrast to these commodity-oriented and rather economistic accounts, a few historians have adopted a more political approach to peasant histories, both deriving from and critical of Eric Hobsbawm's original study of rebellious European peasants.[3] Arguing against Hobsbawm's tendency to view peasant rebellions as 'pre-political' affairs, Ranajit Guha, for instance, has explored significant episodes of militant peasant insurgency in colonial India, seeing in them the affirmation of a specific peasant politics against the oppressive colonial triumvirate of rulers, landlords and moneylenders.[4] In turn, in what can be read as a subtle critique of Guha's focus on violent rebellion, James

C. Scott has sought to emphasise a less dramatic and far more common 'everyday' mode of peasant resistance, as expressed in acts of dissimulation or evasion designed to maximise their room for manoeuvre. Importantly, Scott draws attention to 'the slow, grinding, quiet struggle over rents, crops, labour and taxes' that pervades much of the daily lives of peasants, and insists on the necessity of identifying and analysing peasants' concrete, lived experiences which cannot simply be deduced from modes of production and rigid apprehensions of class relations in the countryside.[5]

Scott's account opens the way to a more complex and holistic engagement with the experience of peasant livelihoods in historical Africa, Asia and the Caribbean, ways of life that may not have been primarily determined either by an overwhelming requirement to produce commodities for export markets, or by a 'political' consciousness geared to regular militant rebellion against powerful and exploitative rural and colonial overlords. Instead, the essays in this collection bring to light cases that reveal peasant communities in the process of constructing resilient livelihoods, manifested through acts of creation and of productive ingenuity that often accompanied episodes of defiance, and that went far beyond these moments of active resistance and endured over time. Simultaneously, they reveal rather more complex and less certain outcomes of European colonial ambitions to reshape the agrarian landscapes of colonised territories than have tended to be presented in the existing literature. They emphasise in particular a variety of subversive alterations produced by labouring communities and their local environments as they responded to processes of commodification unleashed by different European regimes and their associated private profit sectors. Moreover, these fields of action extended beyond the world of crops and commodities and involved related arenas such as health and transport.

Colonial cultures

Recent research has suggested that colonial power never quite amounted to 'absolute domination' over non-European peoples and societies, that it remained circumscribed by the unfamiliar cultural and environmental contexts it encountered.[6] While the motivation of amassing profit and wealth from nature lay at the origins of the drive to introduce new crops or 'improve' existing ones for long-distance trade,[7] the success of these ventures still depended on knowledges of, as well as attitudes towards, the encountered local cultural and natural worlds. These dispositions

were, of course, heavily influenced by the ideologies and interests that colonial officials, naturalists and scientists brought with them from Europe.

Nonetheless, such understandings were never constant but subject to change and modification over time and space, partly as a result of interactions with indigenous communities and exposure to local conditions, and partly in response to culture and knowledge shifts within Europe itself. Nor does the concept of 'colonial knowledge' imply a monolithic entity. Different colonial institutions, levels of administration, local officials, naturalists and business groups often had conflicting interests and priorities which translated into different perceptions of local agrarian societies. As some of the contributions to this volume indicate, these could include sympathetic assessments, although 'difference' in this context resulted perhaps more frequently in contradictory initiatives and unintended consequences.

In situated historical and spatial contexts, several of the essays in this volume dwell on the limitations of colonial knowledges, their engagements and contrasts with indigenous epistemologies, as well as their internal contradictions and unintended consequences. Hazareesingh's chapter suggests that during the early period of British colonial rule, cotton improvement projects failed rather dismally in Dharwar, western India, owing partly to the inadequacy of colonial naturalists' understanding of the local soils and climate, and partly to their dismissal of wider indigenous experiences and priorities of cultivation that were focused on food rather than cotton. Sinha-Kerkhoff takes up the story at a later period of colonial rule in Bihar, Eastern India, and shows that while scientific experiments were successful here in engineering an 'improved' hybrid tobacco variety for the British export market, this could not be turned into a successful commercial product as it also inadvertently led to growing demand for an indigenous type of tobacco.

In these instances, colonial knowledge projected itself as a 'modernising' force intent on changing 'traditional' methods of cultivation and associated ways of life. In her contribution, Minsky focuses on another episode of British rule in India, this time in the northern district of Punjab. Here in the countryside, the building in the late 19th century of a modern network of canals, intrinsic to the cultural belief in the desirability of conquering nature, was intended to facilitate the extended cultivation of commercial crops; however, it also led to waterlogged lands and to the creation of a disease-prone environment.

Local interventions

Throughout the colonial period, official agrarian crop projects, particularly those involving transplanted seeds and plants, tended to be actively contested by local peasant communities who much preferred the continued cultivation of known, familiar crops over which they had control, rather than risking damage to or loss of their domestic livelihoods and health. These communities could, moreover, rely on their longer experience of the local environment, accumulated producer knowledge and local solidarities to resist or confuse and throw into disarray colonial commodification objectives, devise alternatives or simply find subtle ways of maintaining their preferred crops and ways of life.

Many of the essays emphasise the significance of local food production as a particularly meaningful strategic terrain to subvert colonial crop designs. Food was indispensable to sustaining peasants and other agrarian labourers and its continued production, alongside new export crops, clearly remained essential for colonial regimes. Moreover, the growth of indigenous food plants required a complex range of skills incorporating knowledge of seed technologies, soil types, rainfall and climate patterns. At the same time, food acted as a social resource base that sustained the extended household and local community. Entire villages worked together to gather the season's harvest, and the ritual sharing of meals was a crucial feature of agricultural ceremonies and household celebrations. This situation often created manoeuvrable space for the assertion of local peasant agency. Richards' chapter, set in Sierra Leone in the early abolitionist period, shows how 'marronage', or the process of emancipation from slavery, included the creative fashioning of new rice crops: drawing on the social solidarity bonds of the maroon communities, freed slaves were able to engineer a hybrid rice variety from existing 'red' and 'white' commodified types through astute seed selection, and in accordance with the needs of their households.

Continuing with the theme of rice, Maat cites the case of upland farmers in early 20th-century Sumatra, Indonesia, who refused to heed the advice of Dutch colonial officials and abandon the growing of rice in favour of more lucrative export crops such as rubber and tobacco. He argues that not only did upland rice have a special status in the region as indispensable to local peasant livelihoods, but that its continued production also represented a protest against attempts to restrict their 'lading' (or shifting) cultivation practices and customary access to local forest resources. Rice is also the subject of Gilbert's chapter: focusing

on the Swahili coast of East Africa, he points out that over a long historical period covering both the pre-colonial and colonial eras, it never evolved into a traded commodity but continued to be grown for everyday household use. He suggests that this was because the consumption of rice carried particular ritual significance, conferring an aura of worldly sophistication on Swahili coastal communities.

The significance of indigenous religious rituals in informing local resistance is taken up by Maravanyika. Echoing Guha's observations of similar modes of peasant consciousness in colonial India, his study of late colonial Zimbabwe reveals the vital role played by 'spirit mediums' of the Shangwe community in discouraging its members from cultivating cotton, as desired by the colonial authorities. These religious leaders warned that cotton was 'a white man's crop' that nobody 'ate'. A nuanced view of the 'local' is presented in Curry-Machado's chapter on Cuba. Focusing on the region of Remedios in the late 19th century, he identifies distinct crop 'sub-frontiers', each responding differently to the growing dominance of sugar, and emphasises the crucial importance of local sugar planters' varying levels of responsiveness to smallholders' interest in maintaining a sustainable, crop-diverse agrarian environment. Hyde's chapter takes us back to East Africa and shifts our attention to the railways, vital to the colonial economy and particularly to the transportation of Kenya's export commodities. He chronicles episodes of labour resistance in the decades preceding independence, culminating in an unprecedented inter-territorial strike by railwaymen against redundancies and wage cuts. Such militant action is viewed as a response to a colonial process of 'commodification on the cheap' brought about by the global post-war decline in primary commodity prices.

Finally, some of the essays, notably those on South Asia, emphasise the importance of including non-human agencies in the range of local resistances to colonial objectives and ambitions. They suggest both the sheer variety of natural elements that needed to 'work' to bring crop cultivation to fruition, as well as colonial misunderstandings of the intimate entanglements between the natural and human worlds. The stories narrated reveal the significance of soil, rainfall, wind, animals, waste, pests and manure as historical actors influencing crop and health outcomes. Sometimes, natural environments did not conform to European hopes and expectations regarding their suitability to grow particular desired crops, while at other times colonial interventions in, and disruptions of, these environments themselves produced reactive processes that undermined cherished projects. Thus, both climate and

disease microbes had a significant impact on planned crop objectives and changing peasant livelihoods in colonial India.

Anti-commodity

The concept of anti-commodity can be defined as an enduring form of production and action in opposition either to actual commodities and their existing functions, or to wider social processes of commodification, rather than simply a momentary form of protest or reaction. It refers to a range of local productive processes associated with values other than the purely economic, that are either maintained from the past or originally created to confront the various modes of commodification, primarily but not exclusively unleashed by European colonial hegemonies. Contributors to this volume tend to employ the concept with different emphases reflecting both the diversity of the historical and spatial contexts of their research as well as their particular theoretical preferences. These are, however, creative differences that provide ample scope for further discussion and debate and the generation of new directions in both colonial and agrarian histories.

Some authors emphasise anti-commodity as original products, alterations of, or departures from existing commodity forms. Here, both its dependent and (directly) oppositional character are stressed, as in Richards' study of the 're-engineering' of transplanted rice varieties by maroon communities in Sierra Leone. This was performed as an emancipatory activity, coeval with their struggle against slavery. Moreover, this form of hybridised local rice production, he observes, has endured to the present day. Sinha-Kerkhoff takes a similar view of *desi* tobacco in Bihar, another enduring hybrid product which emerged originally as a result of the colonial introduction of, and experiments with, foreign tobacco varieties. In this case, its anti-commodity function lies not so much in its mode of production or local use but in its connection with and popularisation by an emerging anti-colonial nationalist movement.

Other contributors conceive of anti-commodity less as emancipatory products deriving from actual related commodities, but rather as assertions of local autonomy in response to more global economic market pressures. The Shangwe communities in Maravanyika's account attempt to hold on to their local ways of life in the face of 'modernising' social and economic intrusions unleashed by the colonial appetite for cotton. Maat's characterisation of upland rice in Sumatra as anti-commodity rests on its particular local uses and cultural functions as

a basic livelihood and community crop, which contrast with the surplus production of lowland rice for distant markets in neighbouring Java, a consequence of the latter's incorporation within an emerging global economy in the late 19th century. Curry-Machado, similarly, tends towards an 'anti-dependency' view whereby local development, characterised by sustainable crop diversity and the spread of education and health institutions, constitutes the main manifestation of anti-commodity in the face of the seemingly inexorable rise of the sugar industry in the Remedios region. Moreover, in this specific context, the commodity, sugar, is complementary to rather than in opposition with the anti-commodity, since it is the social re-investment locally of sugar profits that makes regional development possible.

A few of the authors offer an explicitly ecological understanding of anti-commodity, perceived as productive activities by peasant cultivators to maintain and sustain their livelihoods and well-being, rooted in a nurturing relationship with their local agrarian environment. Hazareesingh views anti-commodity as sustainable modes of cultivation focusing primarily on food and deriving from peasant experience and knowledge of their environment in the Dharwar region. Here indigenous knowledge enables the adoption of durable strategies to thwart the colonial drive towards the pervasive local cultivation of foreign, American cotton. Minsky, similarly, dwells on peasant producers' activities and efforts to cultivate crops in ways that protected their collective health and well-being in the canal colonies of the Punjab. In her narrative, anti-commodity appears in the guise of life-affirming forms of sanitary practices designed to reverse the unhealthy conditions imposed by colonial attempts to secure the production of heavily manured crops for distant markets.

Collective action designed to protect livelihoods and to suggest an alternative developmental path to a post-colonial future is also at the heart of Hyde's understanding of anti-commodity in a different context. Here it is labour action that is crucial, as railway workers responded to attempts to force them to shoulder the burden of the financial crisis affecting the colonial railway system in Kenya through a flurry of strikes. These actions enabled local labour to supersede its own fictitious commodity status assigned by colonial capitalism and emerge instead as a capacity, as 'autonomous human persons', to use Paul Richards' phrase, working for social and political change. Finally, Gilbert offers a starkly contrasting perception of anti-commodity that anticipates the contemporary practice of 'luxury' branding of particular domestic goods to serve as a marker of privileged social status: he reads the enduring refusal

by Swahili communities to develop local rice varieties into a lucrative commercial product and maintaining production for household consumption only, not as some form of resistance to market forces, but as a marker of an elitist, prestigious social identity, helping to distinguish Arab settlers from indigenous Africans.

Indeed, although the anti-commodity case studies featured in this collection are primarily drawn from the colonial period, the concept remains pertinent to the contemporary world. This is partly because, as Teodor Shanin observed some time ago, the peasantry has clearly not read the script of its predicted historical demise, even under the currently adverse conditions of neo-liberal globalisation.[8] Anti-commodity still appears to be definitionally relevant here to the world of small rural producers seeking to develop sustainable modes of food production in the face of unrelenting pressure from the powerful global corporate food industry backed by Western institutional 'free trade' policies. For instance, in their analysis of alternative food networks in contemporary Mexico and France, Nigh and Gonzalez Cabanas draw explicitly on the work of Richards and Maat and its emphasis on the technical and cultural dynamism of local food systems. These networks are perceived as 'post-capitalist social behaviour and a form of anticommodity'.[9] Here anti-commodity is closely aligned to the radical idea of 'food sovereignty', originally articulated a couple of decades ago by the influential peasant movement La Via Campesina to assert the right of local peoples, in both South and North, to define their own food, land and natural resource policies appropriate to their unique ecological and cultural circumstances.[10]

Notes

1. D. B. Abernathy (2000) *The Dynamics of Global Dominance. European Overseas Empires 1415–1980* (New Haven: Yale University Press), pp. 10–11.
2. E. R. Wolf (1982) *Europe and the People Without History* (Berkeley: University of California Press), p. 310; see also S. W. Mintz (1985) *Sweetness and Power. The Place of Sugar in Modern History* (New York: Penguin Books).
3. E. Hobsbawm (1959) *Primitive Rebels* (Manchester: Frederick A. Praeger).
4. R. Guha (1983) *Elementary Aspects of Peasant Insurgency in Colonial India* (Durham, NC: Duke University Press), pp. 8–9.
5. J. C. Scott (1985) *Weapons of the Weak. Everyday Forms of Peasant Resistance* (New Haven: Yale University Press), pp. 29, 31, 37.
6. R. Roque and K. A. Wagner (2012) *Engaging Colonial Knowledge. Reading European Archives in World History* (Basingstoke: Palgrave Macmillan), p. 25.
7. R. Drayton (2000) *Nature's Government. Science, Imperial Britain and the 'Improvement' of the World* (New Haven: Yale University Press), p. 87.

8. T. Shanin (1972) *The Awkward Class. Political Sociology of Peasantry in a Developing Society: Russia 1910–1925* (Oxford: The Clarendon Press).
9. R. Nigh & A. A. González Cabañas (2015) 'Reflexive consumer markets as opportunities for new peasant farmers in Mexico and France: Constructing food sovereignty through alternative food networks', *Agroecology and Sustainable Food Systems*, 39 (3), 317.
10. See the rich range of papers presented at the conference on 'Food Sovereignty: A Critical Dialogue' held at Yale University, 14–15 September 2013, available at http://www.yale.edu/agrarianstudies/foodsovereignty/.

1
Rice as Commodity and Anti-Commodity

Paul Richards

Introduction

On the Upper West Africa coast rice belongs to two species – African rice (*Oryza glaberrima* Steud.) and Asian rice (*Oryza sativa* L.). African rice was domesticated in the region, perhaps three millennia ago, from a presumed wild ancestor, *O. barthii*. Asian rice was introduced via trans-Saharan and/or Atlantic trade routes, and belongs to one of two subspecies – *japonica* and *indica*. Temperate japonicas are grown widely in the Mediterranean basin, but West African japonicas are tropical types and so are more likely to have been introduced from South East Asia by Portuguese or other European maritime trading activity. A more recent family of West African japonicas, to be discussed in this chapter, may derive from Carolina in the late 18th century.

The skin of the rice grain (revealed once the husk is removed) is known as the pericarp. Pericarp colour is an important criterion in rice trade and consumption. When the pericarp is white, small fragments remaining after milling are much less visible on the cooked grain. World trade accepts only white pericarp rice types.[1] African rice has mainly a red pericarp (some white pericarp African rices have recently been reported).[2] Nor is red pericarp uncommon in Asian rice, especially in indica varieties. Pericarp colour is controlled by a dominant gene. Most Asian rice would have a red pericarp if seed were not strongly selected.

When grown as a commodity for world trade, rice is obligatorily white.[3] Rice grown for household consumption in coastal Upper West Africa varies according to local colour preferences. The red colouring transfers to the starchy endosperm in cooking. Some social groups believe a plate of red rice has better nutritional qualities. Others demand white rice. But farmer rice varieties on the Upper Guinea coast will

be wrongly understood if regarded as heritage varieties – selections mandated by localised cultural traditions. Here it will be argued, with supporting evidence from history and agronomy, that they are better understood as the products of a process of resistance to slave-based commodification. As such, these small-farmer emancipatory innovations deserve a name. Here, they will be termed anti-commodities.

'Red' rice as a commodity of the Atlantic slave trade

The Portuguese arrived on the Upper Guinea coast in the mid-15th century. The westernmost point at which the tropical forest intersects the coast is a mountainous peninsula the Portuguese termed 'Sierra Leone'. It overlooks a vast natural harbour – formed by the estuary of the Rokel river – later visited by British, French and Dutch, as well as Portuguese ships trading along the Guinea coast. Initially, the Portuguese visited the vicinity of Sierra Leone from bases in Cape Verde and Cacheu to buy ivory and kola nuts, a trade facilitated by Afro-Portuguese *lancados* (mainly Cape Verdeans of mixed race who had settled on shore as trade agents).

African farmers appear to have acquired Asian rices during this period of early costal trade with Europeans, perhaps by interaction with the *lancados*, who needed supplies for their own needs and for victualing the ships of trading partners. One 16th-century Portuguese visitor described a community in the mountains of Sierra Leone where the rice was said to be as white as that at Valencia (possible evidence of an early introduction of white-pericarp tropical japonica types).[4] In the early 17th century a small Jesuit mission station was established at Sierra Leone. Lasting for about a decade, the mission was served by a priest (Fr Alvares) who compiled an important record of local life and livelihoods, including an account of local rice cultivation.[5]

The Atlantic slave trade from the Sierra Leone portion of the Upper Guinea coast grew in importance from the early part of the 17th century, when the British and French in particular began to supplant the Portuguese. The trade peaked during the mid-18th century, declined during the American Revolution and was finally extinguished in the first decades of the 19th century. A small colony for repatriated British Africans was established by abolitionists in 1787 on the northern end of the peninsula, and was taken over as a British Crown Colony and base for the Royal Navy anti-slavery squadron in 1808, immediately following the passing of the parliamentary act making it illegal for British citizens to engage in the Atlantic slave trade.

The colony's main town – Freetown – expanded throughout the 19th century, with numbers increased not only by migration from the countryside but also by the release of 'recaptives' (captives from the Lower Guinea coast and Angola landed in Freetown from slaving vessels arrested on the high seas by the British Navy). The Freetown harbour was a major British military asset in both World Wars of the first half of the 20th century, and each conflict raised the population levels and food demands of the city. Internal displacement from civil war in the 1990s doubled the city's population. Today, if its burgeoning suburbs are included, the population is more than a million. Securing rice supplies for Freetown became a leitmotif of government administration across two centuries. The three historical drivers of rice commodification in the region were the slave trade, abolition and war.

The main rice species on the Upper Guinea coast in the period from 1500 to 1800 was African rice. It has a number of varieties adapted to different cultivation ecologies and water regimes. The bulk of the crop was grown on rain-fed uplands. This is sometimes referred to as 'hill rice', and indeed some steep slopes are planted. But farmers also cultivated lower slopes and valley-bottom wetlands.

The slave traders took close note of local rice cultivation systems, since part of their business was to acquire supplies for the long Atlantic voyage. One of their number, John Matthews, described rice farming in the following terms:

> [...] the natives [...] at and about Sierra Leone [...] cultivate little more rice than is necessary for their own consumption' with 'the sides of the hills' [...] generally preferred for their [...] plantations.[6]

Another observer, Thomas Winterbottom, doctor to the abolitionist settlement in the 1790s, noted that under the local subsistence system in free villages each community cultivated a large (common) field and shared the harvest, pouring rice to height of the village chief as his portion.[7]

These communal systems of production satisfied local demand, but changes were needed to meet the rising demand from the slave ships. Slave captains sent cutters into the estuaries north and south of Sierra Leone to scour local markets for red rice. White rice was clearly also available at this stage, since some of the slavers claimed that this type of rice caused 'bloody flux' (dysentery), perhaps the greatest hazard of the Middle Passage. Red rice, they argued, was the preferred food of slaves. In local perception, 'red rice' digests more slowly. Farm labourers can be

sustained for a day on one meal, rather than the two they will need if Asian rice is served. Ruthless in all other respects in their treatment of slave cargos, the slave ship captains, mindful of the condition in which their human cargo would be landed, took care to feed the slaves as well as they could, since this would affect prices and the profits of the voyage.

The demand for red rice was increasingly met by organisational changes. Winterbottom, after describing the typical 'communal' subsistence system, added that slave-worked private farms were beginning to emerge in the interior.

> Though each village and town has its plantation, individuals are allowed to cultivate others for their own private use, and this they frequently do, employing sometimes their own labour, but generally slaves for that purpose. This custom is very prevalent among the Foolas, where land, in consequence, begins to be considered [...] private property [...] subdivided into particular plantations [...][8]

The area north of Freetown was especially noted for this new slave-based rice production. John Matthews estimated that about three-quarters of the population of this region was enslaved, remarking that:

> some of the principal men among the Mandingoes have from seven hundred to a thousand [slaves].[9]

Cultivation of rice on slave plantations began as a temporary expedient. Destined for the Atlantic trade, war captives were put to work while awaiting a ship, to grow their own food. Matthews further commented that:

> Every prisoner taken in battle was either put to death or kept as a slave [...] those captured before the commencement of the rice season [...] were reserved to cultivate the rice-ground; and sold after the harvest to [...] tribes bordering the sea [...][10]

Plantation agriculture became more regularly institutionalised in the last quarter of the 18th century. In the 1760s, at the peak of the trade, more than 100,000 captives were exported from the region around Sierra Leone, but this number had halved by the 1780s, due to a drop in demand during the American Revolution.[11] Mandingo and Susu warlords who lived by raiding the tribes of the forest edge were now forced to devise new forms of work for unsold captives. By the 1790s

these slaveholders had begun to diversify into white rice supply for the abolitionist settlement at Sierra Leone.

'White' rice as a commodity of abolition

The estuaries of the Atlantic coast north of Sierra Leone was known to early British traders and officials as the 'Northern Rivers'. Freetown marked the northern limit of the tropical rain forest. The Northern Rivers lay within the savanna vegetation zone. Grassy and seasonally flooded estuarine coastal plains were suitable for production of rice in commercial quantities. This is because more than one crop a year could be cultivated. Matthews recorded that 'about the Riopongeos [River Pongo] they have three rice harvests in the year; one crop from the hills and two from the plains which [the rivers] overflow'.[12] Part of the intensification of this output seems to have involved the introduction of Carolina rice.

The Rev. Leopold Butscher, a German missionary resident on the River Pongo from 1806 to 1812, stated that Carolina rice had been introduced to the area about ten years before his arrival, and was planted separately on burnt fields of (Guinea) grass. He added that 'the natives do not think it so nourishing as their own kind [of rice]'.[13] A likely source for this introduction will have been a small group of American and British slave traders based in Northern Rivers who maintained strong connections with Charleston, South Carolina, one of their principal markets.

Carolina rice had a white pericarp. Today, two types are distinguished: 'Carolina White' and 'Carolina Gold'.[14] Gold was named for the colour of its husk, not its pericarp. Tibbetts suggests the two Carolina rices originated in Indonesia, thus implying that they are probably tropical japonicas. Carolina Gold was harder to grow, since it was tall and lodged easily. Carolina White appears to have been the more widely cultivated variety. The slave trader Theophilus Conneau, originally from Boston, but resident on the Rio Pongo in the mid-1820s, was familiar with this American rice, and reported the grain to be whiter than African rice, though less solid and tasty.

The grain morphology of Carolina rice differs from the typical grain morphology for many japonicas, noted for their rounded grain shape. In the 1930s one expert in the rice trade distinguished three main grain shapes for rice: a 'long, thin, cylindrical grain, known as Patna' (indica), a 'short, stout grain, known as Spanish-Japan' (that is to say temperate japonica, of a kind found in East Asia, Japan and the Mediterranean), and a 'relatively long and bold type' of grain (which he identified as

Carolina rice).[15] A longer-grained morphotype remains especially common among japonica rice types grown in Sierra Leone in the early 21st century. Plausibly, this is evidence of descent from the Carolina rice noted by Butscher as being especially suited to the grassy, semi-wetland environments of the coastal plain north of Freetown.

Butscher helpfully distinguishes the grassy areas along the River Pongo planted to Carolina rice from the 'bushy places [...] [used by local farmers] for the planting of their own sort [of rice]'. This physical separation may have constituted an out-crossing barrier strong enough to have kept Carolina rice white, at least for a time. Even today, farmers in the Upper West African coastal zone avoid grassy areas – especially areas of rhizomatic Guinea grass – unless they have access to a tractor or an especial abundance of household labour.[16] Before the machine age only landlords with numerous slaves were likely to attempt cultivation of Carolina rice.

This new white type of rice came into its own with the rise of Freetown as a market for rice. Planned by Granville Sharp, the first settlement at Sierra Leone (Granville Town) failed, and was replaced by a company venture intended to offer an economic basis for emancipation. The governor (at various periods from 1794 to 1799) of this second commercially oriented settlement (Freetown) was a young Scottish abolitionist, Zachary Macaulay. Trained in trade in Glasgow and apprenticed to plantation management in the West Indies, Macaulay applied his business and accounting talents to the problem of the economic survival of the infant colony. Freetown needed export revenue. White rice, Macaulay surmised, might be viable as an export to Britain.[17]

Sierra Leone became a Crown Colony in 1808. Macaulay returned to London, but maintained his connections as an adviser to his successor as governor, Thomas Ludlum, and through the activities of his London trading house, Messrs. Macaulay and Babington. Unhappily, however, Sierra Leone was not an agricultural colony. The mountainous topography was against it. Labour supply was also a problem, since slavery was banned in the infant colony. Macaulay first proposed a system of indentured labour to replace slavery, but was criticised for reintroducing slavery by another name. In any case, those who acquired their freedom by being settled at Freetown preferred to trade rather than to farm.

All in all, the infant colony had little potential for generating its own agricultural exports. It could, however, be a centre of agrarian commerce and stimulate agricultural exports from the surrounding region. Macaulay considered coffee, indigo and cotton. Rice also attracted his attention, since Freetown constituted a considerable market for

food shipments from surrounding districts, and some of this might be re-exported. Macaulay also lined up an abolitionist target in his sights. He hoped rice exports might divert food supplies from the slave ships.

Governor Ludlum, however, was clear that the London commodity market would not accept red rice. If Macaulay's plan was to succeed Freetown needed to broker the export of white rice.

> [...] it appears important to point out to [African chieftains] the advantage which they would derive from cultivating generally the *white* instead of the *red rice*, because in that case a vent might easily be obtained for their surplus produce of that article, either in Great Britain or in the West Indies; the former species being a marketable article, while the other, while equally useful as food, would not find a sale out of Africa.[18]

Macaulay sought to validate his plan, even as the abolition bill was before Parliament, by importing a consignment of 100 tons of white rice from the region around Sierra Leone, for which he applied for a prize offered by the African Institution.[19] The amount shipped was equivalent to between 10 and 15 per cent of an estimate laid before Parliament by the abolitionists of the annual commercial output of red rice for the slave ships.[20]

As a merchant in London, Macaulay would have had contacts with other white rice exporting regions, and conceivably obtained seed supplies from these places to be distributed to local planters in West Africa. But given the pamphleteering polemics in which he engaged concerning his prize for promoting white rice as a tool of abolition, it is strange he never mentioned any such initiative. Presumably he had no need to, since white (Carolina) rice was already grown in the hinterland of Freetown, as we know from Butscher's account. Indeed, its evident success seems to have occasioned some negative propaganda among the slave traders, who had already been quick to assert that white rice caused 'bloody flux' (dysentery), a rumour apparently intended to keep local farmers producing the 'red' item for the Atlantic slave trade.

That rice seed choice was a political issue in the region is also apparent from the affairs of the Mandingo state of Moria, under its ruler Almamy Amara.[21] Moria (with its capital at Forecariah) was the northern coastal polity most directly in trading contact with the Freetown settlement. The landlord class elected a paramount ruler by selecting among candidates offered by leading families. In 1803, the ruling classes of Moria accepted Almamy Amara's candidacy and he ruled for the next 20 years.

Despite British attempts to suppress the Atlantic slave trade after 1807 Amara remained stubbornly tied to American markets for slaves. For this reason, he greatly feared British attempts to replace his regime in Forecariah.

Trading interests brought Amara and the Freetown authorities into direct conflict in 1814. A large caravan from Moria arrived at Freetown with rice and cattle, whereupon a number of Moria carriers escaped their owners and requested Governor Maxwell's protection. Amara's attempts to resolve the dispute included sending a fiery letter to Maxwell defending his interests in the Atlantic trade.[22] His own preference was to continue to supply the slave ships with red rice. Demand for white rice from the colony, however, was of increasing interest to the Moria landlord class who had elected him as chief. Going against these interests risked mobilising rivals for power. Ultimately, Amara himself became a proponent of the new white rice, since taxing the trade caravans crossing his territory carrying the new rice towards Freetown offered him a new source of wealth.

By 1821, the British colony was receiving more than two-thirds of its white rice from the plantations of Moria and the neighbouring inland Susu polity of Sumbuya. Much of this white rice came from areas loyal to Amara but needed to cross disputed territory before reaching Freetown. Trade tensions in these disputed areas erupted into open conflict when a rebellious Susu vassal town of Kukuna on the Kolenten (Great Scarcies) river continued to ship white rice down river to Freetown. Amara sought to bring the Kukuna rebels to heel. As a result he threatened Port Loko, a key trading node for Freetown, with war if the sale of white rice was not halted.

Fearing a threat to its food supply, Freetown was bound to act. Governor Grant despatched Major Henry Ricketts to Forecariah to ask Amara to re-open the road and allow the cultivation of white rice. Amara recognised that pressure for change was becoming increasingly hard to resist. The Atlantic slave trade was in terminal decline, and the pull of red rice was weakening. He offered Grant a white flag; specifically, he stated that he was now actively recommending that his subjects plant white Carolina rice.

Rice under emancipation – the anti-commodity unleashed

Surprisingly for a country founded around a settlement for freed slaves, Sierra Leone was one of the last countries in Africa to abolish slavery. A protectorate over the Freetown hinterland was declared in 1896. It was

widely understood that Freetown law would now be extended to the new colonial territory, ending slavery at a stroke.

Almost immediately, in 1898, the British faced a major uprising of chiefs. Threat of abolition, it was thought, had fed a spirit of revolt. The Freetown government thereafter sought to avoid further confrontation. Officials assumed that slavery would die a 'natural' death. In fact, the institution was defended vigorously over the next two decades. Even in the 1920s recovery of runaway slaves constituted major items of business before British-supervised chiefdom courts.[23]

Legislation for abolition was forced upon a reluctant administration only in the aftermath of a slave revolt in the Mabole valley in northern Sierra Leone in 1926. Two owners had been prevented from reclaiming slaves absconded during the revolt. The owners appealed, and won the verdict of a higher court. When news of this reached Britain a public outcry was precipitated. The administration in Freetown hastily cobbled together legislation to end slavery from 1 January 1928.[24]

The social divisions in a slave-based agrarian society survived for at least a generation after emancipation. As recently as 1978 I encountered some elderly rice plantation owners who had lived through the 1926 slave revolt. I asked how they had dealt with their runaway slaves. They answered by returning to their houses to bring out rusty old trade cutlasses, holding them aloft, and asking to be photographed.

In fact, such sanctions were never fully effective. Slave revolts and the founding of maroon settlements are recorded for the region of rice plantations north of Freetown from the 1780s onwards. In 1785, there was a major rising of Bullom, Baga and Temne slaves from Moria.[25] The rebels received tacit support from the neighbouring state of Sumbuya. A maroon community took root at Yangekori, a camp at the base of the interior hills. Eventually the Susu and Mandingo slave holders of Sumbuya and Moria combined forces to destroy the camp in 1796.[26]

The increasing demand for white rice in Freetown helped to consolidate the slave-based plantation system (by origin a temporary adaptation to feed slaves awaiting transhipment) in the decades after Atlantic slavery was abolished. The Rev. William Cooper Thomson, passing through Moria as an emissary from Freetown to Futa Jallon in 1842–43, noted that the 'farms occupy much space . . . cultivated by slaves',[27] adding that 'export of rice to the colony' compensated for the decline in the slave trade.[28]

North of Kukuna Thomson found that rice was in short supply in Benna country, due to three years of locust attacks. But many people were said to be hoarding supplies 'in the hope of purchasing slaves from

their neighbours on the other side of the [Kolenten] river, who were much worse off than themselves'.[29] Landowners were manoeuvring in anticipation that the plantation economy would rebound as soon as the locusts were gone.

Not long after Thomson's visit a new episode of slave revolt occurred in Susu country, with long-lasting consequences for self-emancipation. The border town of Kukuna became embroiled in the long-lasting Bilali rebellion (1838–72). Bilali, the son of Alimamy Namina Sheka Dumbuya, the Kukuna ruler, and a Koranko slave woman, and thus born a slave, was denied the freedom he had been promised on his father's death. So he fled Kukuna and set up a refuge for runaway slaves in Tonko Limba country at Laminayah.[30]

The Limba evidently tolerated the runaways in their midst, probably because they themselves had little use for slaves. In a survey of slave ownership by ethnic group undertaken by the British administration prior to emancipation, the Limba reported fewer slaves than any other group in the country (5 per cent). The enslaved portion of the population was four times higher among the neighbouring Susu (at over 20 per cent).[31]

The Limba see themselves as autochthones within Sierra Leone. Their claims to a long history as a distinctive and self-reliant peasant population, unconquered by neighbouring groups, receives some support from genetic and linguistic data. Rare mitochondrial DNA markers are found among Limba populations, but not among their neighbours, and linguistic taxonomy places the Limba language in its own branch of the Atlantic language family, arguing for its divergence from neighbouring Atlantic languages at an early date.[32]

Bilali was able to fend off many determined attacks for three decades, with Limba support. The conflict drew in participants from as far away as Mende country, and damaged the region's trade (not least its food exports) so much that Freetown repeatedly tried to mediate a peace. Governor John Pope Hennessey, acting on advice from Edward Wilmot Blyden, a Liberian emissary commissioned to visit the area, eventually brokered a compromise in 1872–73 that re-opened the trade routes to Freetown. As part of the settlement Bilali's enemies conceded his right to fight for his freedom, though not to run Laminayah as a refuge for runaway slaves (the place was already known to some as 'New Freetown').

The Mandingo slave-based polity of Moriah then quickly lapsed into another round of internal civil conflict.[33] With the slave-owning elite repeatedly weakened by repeated in-fighting, the space for free peasants

and self-emancipated slaves was further enlarged. Pivot of the regional rice trade, in an ethnically mixed region of Mandingo and Susu plantations and Limba farms, Kukuna was a focus not only of a struggle for political freedom but also of local attempts to repurpose rice seed technologies for a post-slavery age.

This was due both to its strategic position on a major river leading down towards Freetown, along which plantation white rice was supplied, but also as a gateway to the extensive and lightly populated grassy plains and marshy wastes of the boliland zone to the east, where free and self-emancipated groups proliferated. Kukuna was in effect a conduit for movement of seeds out of a plantation corridor north of Freetown and into an emergent peasant frontier.

The boliland region is named after the seasonally flooded grassy depressions associated with an ancient lagoon system on the extensive coastal plain behind Freetown. The zone, however, contains more than *boli*. The determined cultivator has several wetland and dryland niches from which to wrest a living.[34] In addressing the diverse adaptive challenges of this complex but inaccessible region, free peasants and self-emancipated slaves appear to have set about the adaptive task of refashioning the 'red' and 'white' rice commodities of the plantation economy to better suit the requirements of maroon food sovereignty.

This shift rested, it can be argued, on a discernible increase in selection intensity, computable as follows. When Thomson passed through Moria in 1843 he encountered permanent estates worked by up to 150 enslaved persons. These were settled slaves involved in food supply ventures, not temporary workers awaiting trans-Atlantic shipment. They worked on their own subsistence plots two or three days a week, so had some scope to make their own seed choices. But there was probably much less opportunity to move from village to village to exchange new seed types than occurs among experimentally minded free peasant farmers today.[35]

Nor will slaves have accumulated much in the way of seed reserves for planting. With only two days a week to work on their own plots, many farm slaves seem likely to have consumed all they harvested. This implies they would depend on the patronage of the plantation owners for seeds in the following year, something that remains a marked feature of rice farming by the poorest classes in Sierra Leone today.[36] Thomson's report suggests that in Moria in the 1840s only a handful of persons – perhaps one in 50 – controlled the local seed choice decisions.

The end-line picture is very different. Today, an average sized Sierra Leonean rice-farming village of around 50–100 farming households will

have between two and four adults per household involved in seed decisions.[37] Each household farm will be planted to between two and four distinct varieties. Every household will drop two or three varieties, and adopt (or re-adopt) the same number of new varieties, within any five-year period.[38]

In all, a village of 50–100 households might have 30 to 50 distinct varieties in use at any one time, though the top five varieties will probably account for about three-quarters of the area planted each year.[39] Practically every person actively engaged in farming will have decision-making powers over at least one rice variety planted on the household farm or in associated personal plots. In short, modern varietal selection intensity is an order of magnitude higher than in the mid-19th century.

It is suggested that this sharp increase in selection pressure, responsible for a greater rate of emergence of new adapted varieties, began during the late 19th century, as free peasant groups such as the Limba, farming niches in the backcountry, away from trade routes and plantations, incorporated a rising maroon element in the local population, as occurred in the settlement at Laminayah. Self-reliant and emancipated farmers had good reason to pay close attention to adaptive seed choices, since they were seeking security in unfamiliar terrain and had strictly limited capital resources for farming. *In situ* seed selection was a near-costless investment, since it depended mainly or only on care and awareness.

There is, in fact, some interesting ethnographic evidence that observational acuity concerning seeds is particularly marked in groups with the free peasant/maroon background just described.[40] In a study by Longley, Susu and Limba informants from the borders of the former Moria state (in and around Kukuna) were shown seed samples the researcher had collected from their own farms. 'Without even examining the samples . . . Susu farmers usually declared them to be pure'. By contrast, most Limba farmers, Longley reports, 'knew that samples from their own farms contained off-types and explained how the mixing had occurred as they picked them out'.[41]

Marronage, it is argued, reworked both 'red' and 'white' rices into the anti-commodities we encounter today. The rices produced by this emancipatory revolution have a number of distinctive characteristics, apparent in morphological and genetic analysis.

First, the white Carolina rices – favoured commodity of Macaulay's export drive – have become 'red' rice. Genetically, red pericarp results from a dominant gene, so rice will turn red unless off-types are rogued at harvest. In a sense then, farmers have let nature take its course in

regard to japonica materials. But this has a positive valuation in Sierra Leone, where redness is seen as a marker of the satisfying qualities associated with 'country rice' (in contrast to the situation among Mandingo farmers in northern Guinea Bissau, where white pericarp is preferred).

In Mogbuama, a Mende village on the eastern margins of the boliland region, one variety – *gbengben* – has figured as top of the list for local types of rice planted for the past 30 years. It has the large, bold grain morphology of Carolina rice, but is red-rather than white-skinned.[42] Favoured on local markets as well as in household consumption, it can be seen as a representative product of local agency reworking the legacy of Atlantic connections stemming from the era of the slave trade.

The story of rice's journey from commodity to anti-commodity in Sierra Leone has a further intriguing twist. African rice, it has recently been shown, is exceptionally robust and capable of out-yielding Asian varieties in typical low-input conditions for West African dryland rice cultivators.[43] So it is perhaps surprising that farmer selection has not led to a similar contemporary selection of African rice. All varieties remaining in cultivation have associated with them stories stressing their antiquity.

If Carolina rice has been reworked to better suit it to local conditions, why is there a seeming lack of African rice types modified to varied local conditions? The explanation seems to be that farmer-selected rices of inter-specific derivation (*O. sativa* x *O. glaberrima* crosses) have taken their place. The story of inter-specific rices developed by international plant breeders has attracted considerable attention from media and development agencies.[44] That peasant farmers in coastal Upper West Africa have selected their own hybrid-derived rices – perhaps over many decades – has attracted much less attention.

A scenario for the development of these local inter-specific rices has been proposed. This envisages that hybridisation occurs naturally in fields where the two species flower concurrently.[45] The African parent is often a weedy mixture resulting from lack of roguing at harvest. Some farmers, however, deliberately plant the two varieties side by side in order (they explain) to convey some of the 'strength' of the African species to the 'mixed' offspring. This approach has been documented for the Limba-Susu borderlands, in places such as Kukuna noted above as sites of self-emancipatory struggle.[46]

Over 40 farmer hybrids were collected in four Upper West African coastal countries in 2007, and they fall into two main morphological groups – varieties with upright panicles (resembling the African parent) and varieties with droopy panicles (resembling the Asian parent).[47]

Some have become popular and widespread in the region. More work is needed to determine why farmers favour these hybrids over either Asian or African rices, but an important criterion seems to be good performance on low-fertility soils, or in difficult farming conditions, such as those encountered by rural groups forced into out-of-the-way hiding places during the civil war of the 1990s in Sierra Leone.[48] Some farmers specifically refer to endogeneity – they state that a variety is adapted to local use, or is considered nutritionally superior by local standards. These popular 'country rices' often attract a price premium in local markets.

It is intriguing that the earliest 'farmer' rices of mixed African and Asian heritage for which there is documented evidence date back to the decade leading up to emancipation in 1928. These are rices referred to by the collective name *pa disi*. Sometimes an ethnic qualifier is attached – *disi Temne*, *disi Kono* (*disi* rice from Temne country, *disi* rice from Kono). A colonial visitor to Sierra Leone, Frederick Migeod, records that he encountered a rice named *pa disi* in 1926.[49] He thought it was named in honour of the District Commissioner, a personage he presumed to have been active in its introduction. '*Pa*' is, in fact, a noun classifier in Temne. The class contains two key staple food grains of the Temne-speaking region – rice and 'hungry rice' (*Digitaria exilis*), the latter once widely grown as a hunger breaker crop because of its earliness.

In the 1950s the colonial rice research station at Rokupr instituted an enquiry into the origin of *disi* rice. There was an introduction (in 1915) of a wetland variety of Asian rice – Demerara Creole.[50] Possibly *pa disi* referred to this modern wetland type. But the *disi* rices we have collected are all classified among the farmer inter-specific rices. Perhaps the name had been taken by farmers to stand for any new kind of rice? But in this case their own *disi* – while also a new type – was not a British introduction but a product of contemporary self-emancipation. If Demerara Creole was a colonial commodity, then *pa disi* was born of disdain for the colonial apparatus, with its tolerance of slavery and fixation with export markets and urban food security. *Disi* rice, it can be suggested, is an agricultural innovation in anti-commodity form.

Conclusion

At the outset of the global age, founded on the trans-oceanic voyages of the 15th century, much of sub-Saharan Africa was incorporated in international commodity chains via the international trade in slaves. Historians still are unsure about the extent to which this commodification of

people was a product of poor environmental endowment (and resultant low labour productivity) or prior institutional dispositions (so-called 'wealth-in-people' systems of social cohesion). What seems clear, however, is that the spread of monetary instruments linked to international trade intensified commodification of persons, with disastrous consequences for African human rights. As the case of Sierra Leone shows, international abolitionists were intensely focused on the unacceptable consequences of human commodification resulting from the intercontinental slave trade but curiously blind to the intra-African intensification of slavery that sometimes accompanied a turn to so-called 'legitimate' trade. Political concerns in industrial countries in the 19th century to secure supplies of crucial tropical commodities drove a process of colonial intervention in Africa sometimes justified in terms of suppression of abuses such as slavery. But this concern was exercised selectively. Delayed abolition in the case of Sierra Leone suggests that slavery could be long tolerated by a colonial regime so long as it was thought to be functional to security concerns, including feeding the towns. This paradox has generated a lengthy debate about 'food security' and 'food sovereignty'.[51] The proponents of food sovereignty – the right of people to define their own food systems – seek to protect tropical small-scale producers from the adverse consequences of entanglement in global food commodity chains, arguing that the quest for commercial efficiency, in an era of global transportation subsidised by cheap fossil fuel, reduces producer income share and threatens eventual loss of livelihoods. Proponents of 'food security', by contrast, argue that small-scale systems are technologically static, and that the reinforcement of global food systems demands interventions such as the Green Revolution and gene-shifting biotechnology. This chapter has sought to show that even in adverse conditions, local food systems can be technologically dynamic in regard to seed technology, a key area of debate. This dynamism is hidden beneath a language of 'tradition', 'heritage' and 'indigeneity' and requires carefully targeted analysis to bring its technological credentials to light. Evidence has been assembled to suggest the importance of resistance to commodification as a key driver of change – commodification of both persons and crops. In the rice economies of the Upper Guinea coast, marronage (self-emancipation from slavery) transformed both 'red' rice, a commodity of the slave trade, and 'white' rice, a commodity of the era of abolition, resulting in 'crowd-sourced' seed types embodying novel genetic constructs. Modern crop science has been sufficiently open-minded to follow down this road, specifically claiming that its achievements in rice inter-specific hybridisation

meet the typical needs of African small-scale farmers, especially women. Sometimes it is said that technology has emancipatory powers. Here the argument has been reversed. The case of rice on the Upper Guinea coast suggests that a human drive for self-emancipation has generated significant technological change. Specifically, it is claimed, self-emancipation helped make two anti-commodities – autonomous human persons and sovereign rice varieties.

Notes

1. 'Modern taste in rice [...] demands first and foremost appearance, so that flavour and health are sacrificed for the white appearance.' D. Grist (1975) *Rice*, 5th edition (London: Longman), p. 409.
2. B. L. Gross, F. T. Steffen and K. M. Olsen (2010) 'The molecular basis of white pericarps in African domesticated rice: Novel mutations at the Rc gene' *Journal of Evolutionary Biology*, 23 (12), 2747–53.
3. Rice and wheat are the world's two most important grain crops but rice is three times less prominent in world trade than wheat, even though it commands a higher price. About 16 per cent of wheat output is traded internationally, but the figure for rice is only about 5 per cent. K. F. Kiple and K. C. Ornelas (eds) (2000) *The Cambridge History of World Food* (Cambridge: Cambridge University Press), pp. 132–48.
4. A. Donelha (1625) 'Descrição da Serra Leoa e dos rios de Guiné do Cabo Verde, 1625' (An Account of Sierra Leone and the Rivers of Guinea of Cape Verde, 1625)' in A. Teixeira da Mota, ed., with notes and English translation by P. Hair, *Lisbon: Junta de Investigações Científicas do Ultramar, 1977* (Centro de Estudos de Cartografia Antiga, no. 19), pp. xiv–472.
5. M. Alvares (*c*.1615). *Ethiopia minor and a geographical account of the Province of Sierra Leone*. Available at: http://digital.library.wisc.edu/1711.dl/AfricanStudies.Alvares01 (accessed 23 October 2012).
6. J. Matthews (1788) *A Voyage to the River Sierra Leone* (London: B. White and Son), p. 23.
7. T. Winterbottom (1803) *An Account of the Native Africans in the Neighbourhood of Sierra Leone* (London: vol. I, C. Whittingham).
8. Ibid., p. 53.
9. Matthews, *A Voyage to the River Sierra Leone*, p. 149.
10. Ibid., p. 147.
11. R. Ishmael (2000) 'Escape, revolt and marronage in eighteenth and nineteenth century Sierra Leone hinterland' *Canadian Journal of African Studies*, 34, 656–83.
12. Ibid., p. 55.
13. L. Butscher (*c*.1815) 'Account of the Mandingoes, Susoos, & other Nations, on the West Coast of Africa' in B. Mouser (2000) *University of Leipzig Papers on Africa* 6 (Leipzig: Institut für Afrikanistik).
14. J. Tibbetts (2006) ' African roots, Carolina gold' *Coastal Heritage*, 21 (1), 3–10.
15. C. E. Douglas, *Journal of the Royal Society of Arts*, July 18, 1930, cited in D. H. Grist (1975), *Rice* (London: Longman), p. 95.

16. A. R. Stobbs (1963) *The Soils and Geography of the Boliland Region of Sierra Leone* (Freetown: Government of Sierra Leone).
17. This aspect of Macaulay's plan was never to succeed. World trade in rice underwent a major shift between the second half of the 18th century and the first half of the 19th century. Europe was the major importing region. After the American Revolution British importers turned to Bengal and Burma. Africa never figured in the equation. See P. Coclanis (1995) 'The poetics of American agriculture: The United States rice industry in international perspective' *Agricultural History*, 69 (2), 140–62.
18. Macaulay to the Right Honourable Viscount Castlereagh, 8 May 1807 (Zachary Macaulay. 1815. *A Letter to His Royal Highness the Duke of Gloucester, President of the African Institution*. London: Ellerton and Henderson, for John Hatchard, Appendix p. 35, emphasis in original). Macaulay to Ludlum (governor of Sierra Leone) 26 February 1807: 'It seems highly important that a ready market should be furnished to the Africans for the rice they may raise; and yet I fear the red rice will never find a sale out of Africa. Would it not be possible to induce the natives to cultivate exclusively the white rice, for which, if properly cleaned, it might be possible to obtain a market in the West Indies, or even in England?' (Macaulay 1815, Appendix, p. 19).
19. The African Institution (1807–27) was an important group advocating for emancipation and development of Africa, linking royalty, parliamentarians and abolitionists. The prize was a silver plate worth 50 guineas, awarded as the bill to abolish the slave trade was before Parliament (in 1807).
20. 'The Quantity purchased annually for Consumption of the Ships and Factories may be from 700 to 1000 tons' (House of Commons Sessional Papers of the Eighteenth Century, Volume 69, George III: *The Report of the Lords of Trade on the Slave Trade 1789*, Part I, 66, 71 (ed. Sheila Lambert)).
21. This section draws on B. Mouser, E. Nuijten, F. Okry and P. Richards (2012) *Commodity and Anti-Commodity: Linked Histories of Slavery, Emanicipation and Red and White Rice at Sierra Leone*, Commodities of Empire Working Paper no. 19 (Milton Keynes: The Open University). The material on Almamy Amara was originally collected by Bruce Mouser, to whom thanks are due to summarise it here.
22. B. Mouser (1973) 'Moria politics in 1814: Amara to Maxwell, March 2' *Bulletin de lInstitut Fondamental d'Afrique Noire*, 35, ser. B no. 4, 805–12.
23. John Grace, 'Slavery and emancipation among the Mende in Sierra Leone, 1896–1928' in S. Miers and I. Kpytoff (eds), *Slavery in Africa: Historical and Anthropological Perspectives* (Madison: University of Wisconsin Press), 415–435.
24. A. Arkley (1965) *Slavery in Sierra Leone* (New York: MA Thesis Columbia University), p. 132.
25. B. Mouser (2007) 'Rebellion, marronage and jihad: Strategies of resistance to slavery on the Sierra Leone coast, *c*.1783–1796' *Journal of African History*, 48, 27–44.
26. Fendan Modu of Sumbuya told Richard Bright in 1802 'that commonly he makes 100 tons of salt and grows 100 tons of rice, exclusive of his own consumption' (see B. Mouser (1979) 'Richard Bright Journal 1802' in Bruce L. Mouser (ed.), *Guinea Journals: Journeys into Guinea – Conakry During the Sierra Leone phase, 1800–1821* (Washington, DC: University Press of America).

This must have taken a large labour force, and suggests that slave production was well entrenched by that date.

27. W. C. Thomson (1846) 'Narrative of Mr William Cooper Thomson's journey from Sierra Leone to Timbo, capital of Futah Jallo, in Western Africa' *Journal of the Royal Geographical Society of London*, 16, 106–38.
28. Ibid., p. 110.
29. Ibid., p. 123.
30. Ishmael Rashid (2000) Escape, revolt and marronage in eighteenth and nineteenth century Sierra Leone hinterland. *Canadian Journal of African Studies*, 34, 656–83. Laminaya was about 40 km ESE of Kukuna on the Little Scarcies (Kabba) river. G. H. Garrett (1892) 'Sierra Leone and the interior: To the upper waters of the Niger' *Proceedings of the Royal Geographical Society and Monthly Record of Geography*, 14 (7), 433–55.
31. The figures were compiled by a District Commissioner, Stanley, and are reproduced in Arkley, *Slavery in Sierra Leone*.
32. B. A. Jackson, J. L. Wilson, S. Kirbah, S. S. Sidney, J. Rosenberg, N. Bassie, J. A. Alie, D. C. McLean, W. T. Garvey and B. Ely (2012) 'Mitochondrial DNA genetic diversity among four ethnic groups in Sierra Leone' *American Journal of Physical Anthropology*, 128 (1), 156–63; G. Segerer (2008) 'Closed adjective classes and primary adjectives in African Languages'. Available at: https://halshs.archives-ouvertes.fr/halshs-00255943 (accessed 6 May 2015).
33. Rashid, 'Escape, revolt and marronage', p. 676.
34. These are apparent from the detailed soil maps included in Stobbs (1963), *The Soils and Geography of the Boliland Region*.
35. For more recent selection dynamics see, for example, M. Jusu (1999), *Management of Genetic Variability in Rice (Oryza sativa L. and O. glaberrima Steud.) by Breeders and Farmers in Sierra Leone* (Wageningen: PhD Thesis Wageningen University); P. Richards (1986) *Coping with Hunger: Hazard and Experiment in an African Rice-Farming System* (London: Allen & Unwin).
36. Richards, *Coping with Hunger*.
37. Richards, *Coping with Hunger*; P. Richards (1996) 'Culture and community values in the selection and maintenance of African rice' in S. Brush and D. Stabinsky (eds), *Valuing Local Knowledge: Indigenous People and Intellectual Property Rights* (Washington, DC: Island Press).
38. P. Richards (1997) 'Towards an African Green Revolution? An anthropology of rice research in Sierra Leone' in E. Nyerges (ed.) *The Ecology of Practice: Studies of Food Crop Production in sub-Saharan West Africa* (Newark, NJ: Gordon & Breach), pp. 201–50.
39. Richards, *Coping with Hunger*.
40. C. Longley (2000) *A Social Life of Seeds: Local Management of Crop Variability in North-Western Sierra Leone* (London: PhD Thesis University College London). Longley's research design involved study in Kukuna itself, and in an adjacent Limba settlement.
41. Longley, *A Social Life of Seeds*, pp. 168–9.
42. Mouser et al., *Commodity and Anti-Commodity: Linked Histories of Slavery*.
43. A. Mokuwa, E. Nuijten, F. Okry, B. Teeken, H. Maat, P. Richards, et al. (2013) 'Robustness and strategies of adaptation among farmer varieties of African rice (*Oryza glaberrima*) and Asian rice (*Oryza sativa*) across West Africa'. *PLoS ONE* 8(3): e34801. doi:10.1371/journal.pone.0034801.

44. J. R. Walsh (2001) *Wide Crossing: The West Africa Rice Development Association in Transition, 1985–2000* (Aldershot: Ashgate Publishing, Limited).
45. E. Nuijten, R. van Treuren, P. C. Struik, A. Mokuwa, F. Okry, B. Teeken et al. (2009) 'Evidence for the emergence of new rice types of interspecific hybrid origin in West African farmers' fields'. *PLoS ONE* 4(10): e7335. doi:10.1371/journal.pone.0007335
46. C. Longley and P. Richards (1999) 'Farmer innovation and local knowledge in Sierra Leone' in K. Amanor, W. de Boef, A. Bebbington and K. Wellard (eds) *Cultivating Knowledge* (London: Intermediate Technology Press); Jusu, *Management of Genetic Variability in Rice*.
47. Nuijten et al., 'Evidence for the emergence of new rice types'.
48. Mokuwa et al., 'Robustness and strategies of adaptation'.
49. F. Migeod (1926) *A View of Sierra Leone* (London: Kegan Paul, Trench, Trubner & Co.).
50. Richards, 'Towards an African Green Revolution?'
51. 'Food sovereignty' was a term first proposed by Via Campesina, a global alliance for small-scale farming, in 1996: M. E. Martinez-Torres and P. Rosset (2010) 'La Via Campesina: The birth and evolution of a transnational movement' *Journal of Peasant Studies*, 37 (1), 159.

2

Yellow Tobacco, Black Tobacco: Indigenous (*desi*) Tobacco as an Anti-Commodity

Kathinka Sinha-Kerkhoff

Introduction

Tobacco varieties emerge as a result of technological manipulation (during seed production, cultivation, curing and manufacturing processes), socio-cultural preferences, political change as well as changing market demand and supply.[1] This is how flue-cured yellowish tobacco foliage in the US was exported throughout the world from its original location and became famous as 'Flue-cured Virginia' (FCV),[2] or simply as 'cigarette tobacco'.[3] Not only was FCV in huge demand throughout the 20th century,[4] numerous countries also successfully replicated it in their own soils,[5] making it a 'cigarette century'.[6]

During the first half of the 20th century, the Government of India, scientists, European (mainly British) agricultural entrepreneurs (known as 'indigo planters') and a British-American tobacco conglomerate tried to root 'cigarette tobacco' in colonial Bihar in Eastern India. This entailed entrusting new seed to the soils and different cultivation-cum-curing practices to local tobacco cultivators of Tirhut,[7] as well as the acclimatisation of cigarette tobacco in Bihar's scientific, socio-economic, cultural and political environment. This chapter evaluates these efforts.

Desi tobacco in colonial Bihar and its uses

During the 17th and 18th centuries, tobacco became an important export commodity for Portuguese, Spanish, Dutch and British colonies in the Americas and its use in various forms – smoke and smokeless – spread throughout the world.[8] Thus, tobacco arrived in southern India, where the Portuguese were involved in trading the commodity inland and in conducting tobacco experiments.[9] All over India tobacco was

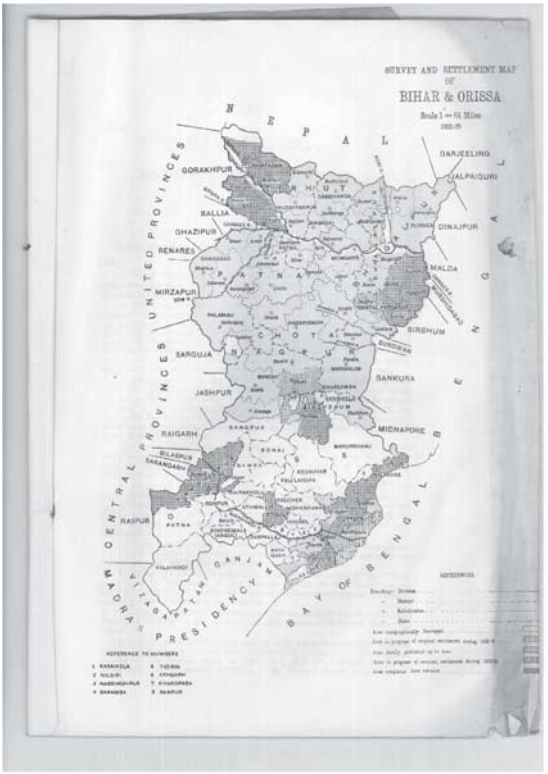


Figure 2.1 Bihar and Orissa, 1928
Source: Survey of India: Bihar and Orissa 1928–9, second revised edition. Government of India publications, 1930.

well received by consumers and cultivators alike. Bihar in northern India grew tobacco as a garden crop for both local consumption and export to neighbouring regions and countries.[10]

By the end of the 19th century, just before cigarette experimentation started in Bihar, colonial botanical categorisation divided various tobacco types in India into two groups: first, plants from 'exotic' seed referred to as *vilayati* (foreign) and second, *desi* (indigenous) tobacco.[11] The difference between the two varieties was deemed to be taste, with country tobaccos found to be less pungent than the 'exotic' ones. In 1881, J. R. Reid, a civil servant, noted that *vilayati* varieties were of recent introduction and 'too strong for some native smokers'. They also did not keep as well in the manufactured state as the *desi*.[12]

Apart from taste and seed origin, tobacco in India was also classified on the basis of its uses. Whereas *vilayati* tobacco could be used as cigar

and (European) pipe fillers, *desi* tobacco suited other forms of tobacco consumption. Accordingly, another civil servant, G. A. Grierson, divided *(desi*) *tamaku* in Bihar into chewing tobacco (*khaini, surti* or in Patna *dokhta*), snuff (*nas*) and smoking tobacco (*piani*), subdivided into more varieties according to tastes, smells and make-up. Grierson noted that tobacco consumption was immensely popular among women, men and children alike, among the rich and the poor, among Hindus as well as Muslims. He added that just as the river Ganges was said to have three streams – one that flew to heaven, another to hell, and the third to the world of mortals – so too did tobacco have three branches: snuff, which, while being smelt, goes upwards; smoking tobacco, which goes downwards when smoked; and chewing tobacco, which goes neither up nor down. In his description of village life in Bihar Grierson mentioned the popularity of the *hookah*,[13] and narrated a folk tale of a villager who went to a distant village to visit his friends, and finding them smoking in the morning before they had even said prayers, quipped: 'At daybreak the people awoke, and immediately the *hookahs* began to gurgle'. The smoking party responded: 'Show me the man who can live without either chewing or smoking tobacco'.[14] In 1888, one 'Hindoo' believed that in India people smoked 'a great deal more than here' (Britain) and *hookah*-smoking was most popular and 'a great definer of etiquette'. He explained that there were several kinds of this Indian water pipe, the most elaborate one consisting of three different parts.[15]

Chewing tobacco was equally popular, and though in the US a public outcry made this habit socially unacceptable behaviour during the second half of the 19th century,[16] this was not the case in Bihar. On the contrary, chewing tobacco was embedded within local cultural norms and described as 'the ambrosia of the *kali* age' by Grierson.[17] Furthermore, the older practice of consuming betel quid had accommodated tobacco, and *paan* (betel leaf chew) was commonly prepared from betel leaf, areca nut, slaked lime and tobacco. Various other tobacco preparations were consumed in raw, sun-dried or roasted form, finely chopped or powdered and scented. Alternatively, tobacco was boiled, made into a paste and scented with rosewater or perfume, the final product placed in the mouth and chewed.[18]

The *biri* (hand-rolled 'Indian cigarette') was also consumed during the late 19th century,[19] as the previously cited 'Hindoo' explained that 'some improvise a cigar by rolling the green leaf of a tree into the form of a cone and filing it with tobacco'.[20] However, as we shall see, *biri*-smoking only became really popular in Bihar during the 1920s. In fact, after around 1860, chewing became more popular than smoking tobacco in 'hubble-bubbles',[21] a mode of consumption that

gradually diminished and was replaced during the 1920s and 1930s by *biri* smoking. Simultaneously, oral intake of tobacco continued, and by 1950 Bihar was not only identified as the main chewing and *hookah* tobacco producing state in India but was also associated with *khaini* (raw chewing tobacco) consumption and *biri*-smoking.

Transforming black into yellow tobacco

By the end of the 19th century not only was *desi* tobacco contrasted to *vilayati* tobacco, colonial interest groups also argued that this indigenous tobacco needed 'improvement'. Although *desi* tobacco was very popular among the local people, consumed regionally or exported to Burma as *cheroot* filler,[22] J. E. O'Connor, Director General of Statistics to the Government of India, complained that 'as a rule, Indian [*desi*] tobacco was found not to be worth purchase in the London market'.[23] A report published by the India Office in London in 1874 confirmed this.[24] The kind of improvement needed therefore was a *desi* tobacco engineered in such a way that merchants in Britain would offer a good price for it.

Civil servant Robert Montgomery Martin also believed tobacco improvement required the help of 'European skill and capital' and that Bihar was a good region for experimentation as it was blessed with plenty of tobacco and also contained a body of British indigo planters who were, in his opinion:

> an intelligent, enterprising and humane class, who have conferred great benefit on the districts in which they reside.[25]

Bihar also had a long tradition of experiments with 'exotic seed',[26] and in the 1870s the Government of India converted an abandoned horse-breeding farm at Pusa into a 'model farm' where indigo planters and tobacconists from abroad were employed to embed 'exotic' seed in the region and improve *desi* tobacco in such a way that it could be exported to London.[27]

Meanwhile, a farmer in the US had developed tobacco leaf possessing the unusual ability to absorb other flavours and additives. Initially used in chewing, this foliage developed into a popular tobacco variety that suited cigarettes.[28] Consequently, Britain greatly desired this kind of 'cigarette tobacco', preferably at a lower price than that demanded by the US.[29] The Government of India decided to pursue efforts to improve Indian tobacco and although results had hitherto been disappointing, tobacco experimentation at Pusa was resumed.[30] In 1908, the *Imperial*

Gazetteer of India observed that there were two tobacco varieties in India. The first one was '*black* [italics added] tobacco', 'used for smoking in the *hukka*'. This tobacco was procured through sun/ground curing. The second tobacco type was 'yellow tobacco, prepared differently' and the result of a different curing process through which tobacco leaf assumed 'a bright yellow colour'. This colour could be acquired, it was believed, by 'perfecting the native methods of curing and manufacturing tobacco'.[31] With the increased popularity of cigarettes in the UK, the demand for this 'yellow' tobacco leaf had increased considerably by the beginning of the 20th century and in consequence, 'improvement' now actually came to mean that black *desi* tobacco in Bihar had to be altered to become 'bright yellow'. In other words, with the assistance of European skill and capital, local tobacco cultivators needed to change their cultivation and curing practices so as to produce tobacco for overseas export, while continuing with the manufacture of cheap cigarettes within India. Significantly, colour difference now separated the *desi* from *vilayati* tobacco. The black-cured tobacco variety that was so much in demand for chewing and *hookah* preparations in Bihar had to be made yellow as a result of the desires of merchants and manufacturers in the UK and the US. In their eyes, the combination of a light golden-coloured leaf grown in a light-coloured soil and the adaption of lighter curing methods were responsible for the 'mild taste' of 'Bright Tobacco' and made it therefore perfect as cigarette filler.[32]

Experimentation with cigarette tobacco in Bihar (1907–50)

An important development at the beginning of the 20th century in colonial India was the application of 'science' to agriculture with the setting up of new scientific institutions. An Agricultural Research Institute was established at Pusa in 1904,[33] replacing the Pusa model farm and containing five large research departments, a big laboratory, as well as a library and an agricultural college. The Institute was housed in an impressive building, which opened out on to vast adjoining fields for experimentation.[34] Accordingly, 'non-official' European indigo planters interested in plant improvement could now be supported by professional scientists employed by the Government of India.

After 1907, colonial tobacco improvement at Pusa was supervised by scientists Albert Howard, Gabrielle Howard-Matthaei and Kashi Ram, the 'Third Assistant' to the Imperial Economic Botanist. Albert Howard was Head of the Botanical Section of the Pusa Research Institute and his wife was appointed as 'Second Imperial Botanist', both staying at Pusa

until 1924. The outcomes of their tobacco research were published in the Institute's numerous journals, memoirs, scientific reports, monographs, bulletins and articles.[35] This material suggests that these scientists had learnt from the failures of previous experimental work with 'exotic' seeds and 'foreign' tobacco cultivation methods that had been carried out previously at the Pusa Model Farm. Gabrielle Howard and Kashi Ram concentrated on existing varieties (*desi* tobacco) and tried to improve these through hybridisation and cross-fertilisation.[36] Albert Howard was more interested in the introduction of new cultivation methods such as topping and spiking and furrow irrigation, and was also keen on developing new curing methods.[37]

Yet, the Howards felt that all this work consumed too much of their time and they soon decided to concentrate on 'more useful work that promised immediate outcomes'. Albert Howard believed that in order to be able to compete with 'the highly organised and heavily capitalised American export market', 'local cultivation practices' had to be changed.[38] Gabrielle's sister Louise later wrote that 'the most attractive aim' for the Howards was 'the evolution of a good cigarette tobacco'. The couple could not get good results with 'American varieties', however, and then 'surprisingly enough' one 'indigenous variety' was isolated which compared well in flavour, texture and colour – the three important points – with other good cigarette tobaccos.[39] This newly engineered *desi* tobacco, baptised as 'Pusa 28' in 1915, was in fact a 'hybrid', the result of cross-fertilisation.

However, as Pusa 28 was still perceived as too black to function as 'good' cigarette tobacco, Albert Howard recommended improving existing curing and cultivation practices of the growers, believing that these were 'about the worst possible' and 'particularly defective' for the sound preparation of cigarette tobacco.[40] Simultaneously, seed research had to be continued, as Pusa 28 'could not be cured to a really bright colour' and possessed 'a flavour which makes it unsuitable for use in any but the lowest grade of cigarettes'. Finally, just before their departure in 1924, the Howards found that the 'exotic Adcock leaf' did very well in Bihar provided certain relatively simple changes in cultivation methods were adopted. These changes were made after the couple's departure and it was subsequently reported, after more trials with Adcock and Burley leaves, that 'these exotics can be grown successfully in Bihar, and that it may be possible to produce a bright cigarette tobacco with the curing methods devised'.[41]

With such encouragement tobacco research continued at Pusa, now conducted by F. J. F. Shaw and Kashi Ram, who tried out flue-curing in newly established barns. Besides, research on the ratio of cost to price

showed a satisfactory profit to the grower of the improved tobacco. However, once manufactured, the cigarettes proved very disappointing in burning and aroma qualities. This was due, it was generally believed, to the effects of the local climate on fermentation processes. However, the following year's batch suggested that 'cigarette tobacco leaf of a quality superior to any produced in India before' could be obtained by flue-curing Adcock tobacco, and now special attention was paid to the economics of flue-curing. By the end of the 1920s, a kind of tobacco leaf was produced that seemed ready for export to England: 'the best we have seen so far of Indian growth, being the nearest approach to the corresponding American type'.[42]

The plant's seed was distributed among cultivators around Pusa and scientists were confident that they would succeed in turning black tobaccos yellow. Yet as one Indian agriculturist observed, tobacco improvement not only depended on the ability and willingness of 'the ordinary cultivator' to adopt 'better methods of cultivation' but to be really successful, the cigarette industry also required 'a heavy outlay of capital, as well as an extensive plantation'.[43] In Bihar this 'outlay of capital' was indeed available. Tirhut had a well-developed railway network, great tobacco yields and a good workforce of *koiri* tobacco cultivators. Moreover, colonial policy-makers were looking for alternatives for the declining indigo, poppy and sugar exports and believed that the region possessed a century of accumulated knowledge regarding tobacco improvement, which the new Agricultural Research Institute would put to good use. Finally, the Peninsular Tobacco Company had chosen Monghyr in Tirhut for the establishment of the first machinery-operated cigarette manufacturing factory in British India.[44]

Peninsular was a British American Tobacco (BAT) company initiative based originally in Calcutta, which had aimed at the promotion of sales of imported cigarettes in India. However, due to unfavourable tobacco import tariffs as well as competition from *swadeshi* enterprises established by Indians which produced 'home-made modern cigarettes',[45] Peninsular chose to move to Bihar to start cigarette manufacture with 'home-grown' tobacco leaf instead. Accordingly, in the Dalsingh Serai region of Tirhut, BAT set up a subsidiary company called the Indian Leaf Tobacco Development Company (ILTD) in 1912 to supply tobacco leaf to the two cigarette factories that now existed in India, the one at Monghyr and a new one in Guntur (Madras Presidency).[46]

Peninsular now worked closely with Pusa scientists to conduct experiments to ascertain the best varieties and the best means of growing tobacco suitable for the manufacture of cigarettes.[47] A 1911 Pusa report stated that arrangements had been made with the Imperial Tobacco

Company in London for Pusa scientist Albert Howard to visit two of the best factories in London to inspect the type of leaf required by British factories. These visits proved 'of greatest use' to the scientist, and some of the knowledge obtained was applied during the next year at Pusa.[48] Subsequently, the new hybridised varieties resulting from the experiments conducted by the Howards were sent to Peninsular at Monghyr. There, they were manufactured into cigarettes in order to test their burning capacities and to find out which of them fetched the highest price. It was then planned 'if possible to repeat the results amongst the cultivators',[49] but it remained to be seen whether they were prepared 'to take the trouble necessary to grow and cure this tobacco'. If they were prepared to take the risk, Albert Howard reported, 'it will be possible to consider whether or not fire curing in some simple form in earth-built barns can be undertaken in Bihar with any prospects of success'.[50]

Peninsular reported that Type 28 was found to be the best as it sold well, and subsequently the Pusa Institute started growing this cigarette tobacco type solely for the use of the Peninsular Company. Peninsular had also made arrangements to grow Pusa 28 on three indigo estates in the ILTD region, where it was 'cured on the ground'. The cured leaf from one of these estates was described as 'very satisfactory' and the product was taken over by the ILTD.[51] ILTD engineers then produced drainage maps to indicate other former indigo estates in Tirhut where this experiment could be extended.[52] As a result, portions of the *zerat* (own lands) of the indigo planters were let out to Bihari tobacco growers, mostly from the *koiri* caste. Experiments with green manure (*seeth,* indigo refuse) were also conducted by Pusa experts in old indigo fields and the 'wonderful' results were brought under 'the notice of [indigo] planters interested in tobacco growing in Behar'.[53]

By 1915, Bihari cultivators on the *zerats* of British planters grew tobacco for the ILTD at Dalsingh Serai using rack-curing instead of the 'country methods' such as the sun-dried curing practice.[54] Shortly afterwards, these cultivators also entrusted the newly engineered cigarette seed (Pusa 28) to Bihari soil. Louise Howard noted that by 1924 enough seed was being distributed to cover one-quarter of the areas devoted to tobacco in India, namely some 250,000 acres. This enabled a steady supply of leaves for the cigarette factories which were springing up and catering for the new fashion of cigarette-smoking which was now beginning to displace the *hookah*.[55]

Cultivation of cigarette tobacco was not only much more labour intensive but also more technologically advanced and thus required more knowledge, skill and capital. Only the more well-to-do traditional

tobacco cultivators such as *koiris* seemed to be able to afford this enterprise. The ILTD provided advances to the cultivators, so as to enable them to produce leaf of the required quality for the ILTD to use as cigarette tobacco. Once the ILTD considered the leaf acceptable, it was bought from the cultivators themselves, either cut or while still standing in fields. Afterwards this foliage was further processed in one of the ILTD's three re-drying factories near Dalsingh Serai (in order to reduce its moisture) and made into cheap cigarettes, while higher-quality leaf was transported to the cigarette factory at Monghyr. Quite often, a fair portion of the cigarette tobacco leaf remained unmanufactured and was transported to the headquarters of the Imperial Tobacco Company (ITC), another affiliate of BAT established in 1910 in Calcutta, which then repackaged it for overseas export.[56]

In summary, during the 1910s and 1920s the whole network needed to improve tobacco, that is transform black tobacco into yellow, involved several main actors, including the Agricultural Research Institute at Pusa which cultivated the new cigarette tobacco, either on its own fields or on *zerats* of indigo planters. Newly developed tobacco seeds were distributed to the ILTD, which in turn gave out the seed to 'anyone who applied for it'.[57] In effect, this meant that the ILTD distributed it among interested (petty) *zamindars* (often *Bhumihars*) and British indigo planters. In turn, the agents of the latter distributed the seeds among the more independent and well-to-do tenants or to landless agricultural labourers who worked on *zerats* of European planters or fields of Bihari *zamindars*.[58] For some time this network seemed to have functioned well, with all parties involved declaring themselves satisfied. The whole enterprise seemed very successful and in 1917, it was reported that 'the local manufacture of cigarettes is developing rapidly'.[59]

Failure of yellow (cigarette) tobacco in Bihar explained

Yet, while still at Pusa the Howards had already warned that the spread of bright (cigarette) tobacco cultivation and curing among tobacco cultivators (*raiyats*) in Tirhut still remained 'a matter of price'. Albert Howard had calculated that 'if the growers are able to obtain a premium for this kind of tobacco from the Company to repay them for the extra care required in the curing process, the area will expand'. He also recognised, however, that there currently was 'no competition on the part of the local trade for this tobacco when grown for cigarettes and at present the Company can to all intends and purposes make its own terms'.[60]

In other words, there were two tobacco networks that largely operated independently of each other. However, even Indian cultivators who sold their black *desi* tobacco to local producers/merchants to be used for chewing and *hookah*-smoking, and not to the ILTD as cheap cigarette fillers, had actually accepted the improved tobacco seed and some of Pusa's recommended new cultivation methods. Yet, as long as Pusa 28 or any other 'improved' tobacco seed was not flue-cured, tobacco remained or rather turned black through alternative sun/ground-curing. Only when cultivators sold their improved tobacco to the ILTD for re-drying and/or flue-curing would it become yellowish and turn into a texture and taste that was conducive to the manufacture of (cheap) cigarettes.

It is therefore clear that 'acclimatisation' of cigarette tobacco in Bihar did not depend solely on the willingness and ability of the actual tillers of the soil to accept new tobacco varieties, changed cultivation and curing methods, or on soil factors, climate and seed. It also depended on the collaboration between the actual cultivators (*koiris*) and Indian estate owners (*zamindars*) or British indigo planters, as well as institutional collaborations between the Imperial Agricultural Research Institute at Pusa on the one hand and Peninsular at Monghyr and ILTD at Dalsingh Serai on the other. By the end of the 1940s this network had all but dissipated. In the remainder of this chapter, I consider some of the crucial events during the 1920s and the 1930s that made this network non-functional and as a result brought the cigarette adventure in Bihar to a definite halt by 1950.

When the Pusa Institute was established in 1904, the outcomes of research conducted at this scientific facility were held to be of 'imperial' significance, that is, intended for use not only in the Bengal Presidency but in the whole of British India, as well as in other parts of the British Empire. This implied that what was researched was also dictated by economic needs existing outside Bihar or even India. Therefore, although research at Imperial Pusa might turn out to be particularly useful to its home province of Bihar, it did not necessarily have to be so in order to be considered valuable. This meant that although cigarette tobacco research at Pusa was a priority for the Government of India, this research and the resources devoted to it were not necessarily popular with the local government of Bihar and Orissa.

In 1919, under severe political pressure from an emerging nationalist movement, a new Government of India Act was implemented, conceding administrative decentralisation and limited political representation to Indians. It also had 'far-reaching effects on the organisation, funding and political complexion of late colonial science'. As a result of decentralisation, Imperial Pusa lost its agricultural research

pre-eminence and found itself increasingly out of touch with the provinces that 'were originally intended to be its scientific fiefdoms'.[61] There were now debates in the public sphere about its very *raison d'être*, with the Bihari educated classes urging a complete change of direction. They argued that research at Pusa should be more focused on the 'real' needs of agrarian Bihar and urged scientists to take up different issues and focus on different crops than hitherto had been the case. With increased decentralisation, the conflict of interests between the Agricultural Department of the Government of Bihar and Orissa and Imperial Pusa, which were now housed in the same buildings, became even more pronounced during the 1930s.[62]

There was also a more long-standing debate at Pusa about the direction of tobacco research itself. N. G. Mukerji, a civil engineer, regretted that the 'native *chilim* tobacco is unfortunately going out and cigarettes taking its place'. He was aware that for cigarette tobacco, 'the ordinary native tobacco is too much fermented and is too dark and brittle'. He also realised that in order to produce the 'small-sized leaves with golden colour that make the best cigarette tobacco', 'the whole curing must be altered' and 'the European method of curing' needed to be introduced. He nevertheless wondered whether this was all worth investigation as the costs of flue-curing were much higher than 'the ordinary native method'.[63] Whereas most scientists and administrators at Imperial Pusa believed that research related to flue-cured cigarette tobacco had to continue, others felt that tobacco research should concentrate on improvement of (ground-cured) dark *desi* tobaccos as this was the most valuable commercial commodity for local cultivators in Tirhut. Moreover, the cultivation of tobacco in general was not possible for 'ordinary cultivators' as it required high land beyond the reach of floods, which was more expensive and more tax had to be paid for such plots.[64] Some in Bihar therefore argued that more attention should be given to improvement of other cash crops or to food crops such as wheat.

Tension between Imperial Pusa and the provinces remained during the early 1930s, and when a powerful earthquake in Bihar in 1934 damaged many of the institute's buildings and crops in the region, the 'Imperial' part of the Pusa institute was transferred to Delhi, the new capital of British India. After receiving recommendations from the newly established Imperial Council of Agricultural Research (ICAR), the Government of India also decided that cigarette tobacco research should henceforth be carried out in a tobacco substation located in Guntur, Madras,[65] and that Pusa should concentrate on general botanical research.[66]However, the Imperial Botanist remained at Pusa for some additional time to supervise ongoing research on tobacco diseases, such

as mosaic and leaf-curl virus, and flue-curing trials. As the latter yielded 'most encouraging' results, he concluded that 'a definite opportunity exists for flue-curing of tobacco in Bihar for people with a little money to invest'. Apparently, not all was lost for cigarette tobacco in Bihar even after the departure of the Imperial Agricultural Research Institute. However, Pusa's reduced research capacity severely affected the work of BAT's Peninsular and ILTD in Bihar, both of which faced additional setbacks during the 1920s and 1930s.

Cigarette-smoking in Bihar had hitherto been confined to the richer, educated and urbanised classes, while most others were tobacco chewers or *hookah* smokers. Nevertheless, numbers had slowly but steadily increased in the rest of India and during the First World War; BAT had stepped up its investments in Bihar in order to supply cheap cigarettes to consumers over a wide region. During the 1920s, Peninsular developed its own printing facilities at Monghyr, training locals in the use of the printing machinery; however, it unleashed BAT's first industrial dispute by paying these employees higher rates than the tobacco machinery operators. The resulting strike, in a foreign-owned factory, drew much of its impetus from the extension into Bihar of the nationalist non-cooperation movement launched by Gandhi in the early 1920s.[67]

Nationalist movements gained considerable strength and spread to the countryside during the 1920s and 1930s as Congress, socialist and communist leaders all denounced colonial rule with increasing frequency. Moreover, a *kisan* (peasant) movement had also emerged highlighting the extremely exploitative agrarian system in Bihar. The Samastipur and Darbhanga tobacco belts were awakened by the call of peasant leaders such as Swami Saraswati, who fought against big *zamindars* and British planters in order to guarantee the occupancy rights particularly of poorer tenant cultivators and small landholders such as *Koeris* and *Bhumihars*.[68] Consistent with the norms of colonial hierarchy, British officials tended to view these communities differently, comparing *Bhumihars* unfavourably with *Koeris*. The *Bengal District Gazetteer* described *Koeris* as 'skilful and industrious cultivators, who are the best tenants to be found in the districts'.[69] *Bhumihars*, however, though 'an influential agricultural caste', were described by the *Gazetteer* as 'addicted to litigation' and 'notorious for their quarrelsome disposition'.[70] These two caste groups reportedly had antagonistic interests. While both groups were involved in tobacco cultivation, the lower and more menial tasks tended to be assigned to *Koeris*, while *Bhumihars* were also exempted from rent and *zamindars*' dues.[71]

However, during the 1920s the *kisan* movement had some success in bringing both communities together, as *Bhumihars* and *Koeris* took part together in campaigns against colonial rule and various forms of agrarian exploitation.[72] By this time both groups also had their own caste associations to protect their socio-economic interests.[73] These developments caused great alarm among the colonial government, indigo planters and ILTD/Peninsular. Moreover, the agrarian unrest, partly related to the mass peasant protest against indigo cultivation,[74] also led to the exodus of many British planters from Bihar during the 1920s and 1930s and caused others to exchange indigo/tobacco cultivation in Darbhanga for sugar cane elsewhere in North Bihar.[75] Amidst the agrarian unrest came the departure of the Imperial Agricultural Research Institute at Pusa in 1934. This was a major setback for the ILTD, which had looked upon the Institute as a crucial and reliable partner.

The boycott of foreign goods and enterprises now became an integral part of the nationalist movement, which included the blacklisting of 'foreign' cigarettes.[76] This also led to small factories cropping up in Bihar and producing a type of 'Indian cigarettes', called *biris* (tobacco wrapped up in a leaf).[77] *Biris* were thus a typical *swadeshi* (indigenous) product, the consumption of which was preferred and often prescribed by nationalists, along with more traditional ways of taking tobacco, such as *khaini* (chewable tobacco) and *zarda* (the addendum to betel leaf), snuff and as smoke in the *hookah*. This resulted in rising demand for black *desi* tobacco, well suited to *biri* manufacture, while at the same time reducing demand for cigarette tobaccos. Moreover, as a result of the boycott campaign, *Koeris* stopped or reduced cultivation for the ILTD.

Both the colonial government and the ILTD, which had considered *Koeris* their faithful collaborators, were now increasingly alarmed and hoped that the cultivators were simply indulging in 'temporary enthusiasm' for the boycott campaign that would 'gradually wear off'.[78] However, a fresh civil disobedience campaign was initiated by Congress in 1930 which once again encompassed a boycott of British goods. This time it was even better organised and cigarettes were a primary target. Between March and May 1930, the average monthly sales of BAT's cigarettes in India fell from just over 700 million to barely 300 million. The general depression of the early 1930s also had an enormous impact on the tobacco trade, setting it back considerably. Only in 1934 did sales begin to properly recover, and not until the outbreak of the Second World War did they return to the levels of the late 1920s.[79]

In 1932, the Director of Industries for Bihar and Orissa reported that 'the boycott of European style cigarettes has had a disastrous

effect on local factories and produced quite a considerable boom in *Biri* manufacture'.[80] When the management at a Peninsular cigarette factory in Monghyr began closing down departments one by one during three consecutive days and threatened the workforce with closure, the employees refused to work unless they were given a bonus in addition to the pay they were due to receive the next day. The manager refused and the workers reacted by shouting the popular nationalist slogan 'Mahatma Gandhi ki Jai' (long live Mahatma Gandhi). *Hartal* (strike action involving workplace shutdown) was observed the next morning until finally the manager gave in. In its report on this strike, the Government of Bihar and Orissa observed that 'Peninsular is being ruined by Congress'.[81] At around the same time, the ILTD was also involved in a dispute with its suppliers after refusing to buy tobacco from *raiyats* (cultivators) on the pretext of deficient quality. The factory even closed down (temporarily) during the early 1930s, amidst a wave of protests conducted by ILTD workers and *raiyats* alike who felt cheated and staged protests in and around the factory premises.[82]

The colonial government might also have observed that Peninsular was 'ruined' by the newly established trade unions in Bihar during the 1930s, which provided a voice to the factory's workforce for the first time.[83] In 1935, the Government of Bihar reported alarmingly on 'socialist activities' at the Tobacco Factory in Monghyr.[84] Finally, in 1950, after India had become independent, another dispute between workmen representing the Tobacco Manufacturing Workers' Union and the British management at Monghyr caused BAT to permanently close down all its re-drying factories in and near Dalsingh Serai.[85] Subsequently, ILTD would concentrate its energies on its factories in southern India, from where the cigarette factory at Monghyr now had to order its flue-cured yellow-coloured tobacco leaf.[86]

Black *desi* tobacco as an anti-commodity

By the end of the 19th century, London markets desired a kind of tobacco foliage that could be used as cigarette fillers. Having lost a cheap supplier of this plant during the American Civil War (1861–65), England turned to its colonies. British India was initially selected as a possible alternative that would make good the loss of American tobacco leaf imports. Though first engineered in America, the desired cigarette tobacco variety could, it was believed and hoped, spread easily among cultivators working in different climates and soils around

the world as this tobacco plant had unique, recognisable and replicable characteristics, which particular environments of cultivation and curing techniques could predictably generate. In fact, as long as the leaf of this tobacco turned somewhat yellow after flue-curing, it could count as cigarette tobacco (albeit of different qualities and either used as filler, binder or wrapper in cigarettes).[87] This chapter has explored the spread of yellow tobacco in colonial Bihar and concluded that, in the end, it failed to take proper root. Moreover, during attempts to embed it in Bihar, this foreign cigarette tobacco in fact generated its rival: an improved black *desi* tobacco variety.

In their study of rice cultivation by emancipated slaves in upper coastal West Africa, Mouser et al. compared two different rice varieties and considered whether one of these could be defined as an 'anti-commodity'. They proposed that where a product is 'engineered' to have counter-cyclical uses, one can meaningfully talk of an anti-commodity, that is to say, 'something produced in such a way that price shocks associated with an over-reliance on commodity production can be absorbed'.[88] Consistent with this view, though in the context of a different commodity in a different spatial setting, and following this analysis of the closely connected histories of 'yellow' and 'black' tobacco varieties in colonial Bihar, I believe that '*desi* tobacco' can indeed be defined as an anti-commodity.

This black *desi* anti-commodity tobacco variety was engineered amidst efforts to embed yellow tobacco in Bihar. Sun/ground-cured dark-coloured *desi* tobacco not only came into existence as a result of the introduction of its 'opposite' in Bihar, flue-cured yellow-coloured exotic *vilayati* tobacco, but was also transformed by the latter in such a way that it could function as an anti-commodity that successfully competed with the yellowish cigarette tobacco. By the late colonial era, improved *desi* tobacco was more in demand, fetched higher prices, was easier and cheaper to cultivate and cure, and its merchandise (that is to say *hookah* and chewing tobaccos and *biris*) was politically and culturally more acceptable. Ultimately, this hybrid 'anti-commodity' was the product of a complex process of negotiation between landowners, planters and cultivators, scientists and their patrons, factory workers and employers, nationalist leaders and colonial officials as well as the expediencies of local and international markets. In fact, once 'foreign' cigarette tobacco cultivation and curing facilities vanished from Bihar with the departure of British indigo planters, the Indian Leaf Tobacco Development Company and the Agriculture Research Institute, the indigenous variety's colour also disappeared from its merchandising descriptions. In fact,

by 1950, when India had become independent, *desi* tobacco even lost its name and was henceforth referred to as the 'chewing and *hookah* tobacco types' of Bihar.[89]

Notes

1. Cf. B. Hahn (2011) *Making Tobacco Bright: Creating an American Commodity, 1617–1937* (Baltimore: Johns Hopkins University Press), p. 12.
2. 'There were three separate means of curing by the nineteenth century: By air, fire, or heat, the last of which meant sending heat through ducts or flues to protect the leaves from the fire and its smoke.' Ibid., p. 29.
3. M. Meinking (2009) *Cash Crop to Cash Cow: The History of Tobacco and Smoking in America* (Broomall, PA: Mason Crest), pp. 61–75.
4. J. Goodman (1993) *Tobacco in History: The Cultures of Dependence* (London and New York: Routledge), pp. 193–6.
5. W. A. Brennan (1915) *Tobacco Leaves: Being a Book of Facts for Smokers* (Menasha, WI: George Banta Publishing Company), pp. 29–39.
6. Cf. H. Hobhouse (2004) *Seeds of Wealth: Four Plants that Made Men Rich* (Washington, DC: Shoemaker & Hoard), p. 225.
7. In 1877 the Tirhut region in North Bihar comprised the districts of Champaran, Darbhanga and Muzaffarpur (which became Samastipur later on): W. W. Hunter (1877) *A Statistical Account of Bengal*, vol. XIII (compiled by A. W. Mackie): *Tirhut and Champaran* (London: Trübner & Company), p. v.
8. E. R. Billings (1875) *Tobacco: Its History, Varieties, Culture, Manufacture and Commerce, with an Account of its Various Modes of Use, from its First Discovery until Now* (Hartford, CT: American Publishing Company).
9. K. Datta (1991) 'Portugal's experiment with Brazilian tobacco in India in the eighteenth century' *Indica*, 28 (2), 95–111.
10. N. Sinha (2012) *Communication and Colonialism in Eastern India. Bihar, 1760–1880s* (London: Anthem Press), p. 195.
11. Cf. S. Amin (ed.) (2005) *A Concise Encyclopaedia of Northern Indian Peasant Life: Being a Compilation from the Writings of William Crooke, J.R. Reid, G.A Grierson* (New Delhi: Manohar), p. 147.
12. Quoted in Ibid., p. 337.
13. C. S. Ray (2009) 'The hookah–the Indian waterpipe' *Current Science*, 96 (10), 25 May, 1319–23.
14. G. A. Grierson (1885) *Bihar Peasant Life. Being a Discursive Catalogue of the Surroundings of the People of that Province with many Illustrations from Photographs taken by the Author, Prepared under Orders of the Government of Bengal* (Delhi: Cosmo Publications), 1975, pp. 240–1.
15. Anonymous (1888) 'Smoking in India' *Frank Leslies' Popular Monthly,* 24 (September), 375–6.
16. World Health Organization (2007) 'IARC Monographs on the evaluation of carcinogenic risks to humans: Smokeless tobacco and some tobacco-specific N-Nitrosamines' *Lyon Cedex: International Agency for Research on Cancer*, 89, 42–3 and 49–55.
17. Grierson, *Bihar Peasant Life*, pp. 240–1.

18. World Health Organization, 'IARC Monographs', 82, 49–55 and 113–28.
19. P. Pimpalapure (1999) ' "Tendu" leaf and "bidis" '. *Asian Agri-Hist* 3 (2), April–June: 111–16.
20. Anonymous, 'Smoking in India', p. 376.
21. 'An onomatopoeia applied to the *hooka* in its rudimentary form': W. Crooke and W. Hobson-Jobson (1984) *A Glossary of Colloquial Anglo-Indian Words and Phrases: and of Kindred Terms, Etymological, Historical, Geographical and Discursive*, new ed. version of book by Col. H. Yule and A. C. Burnell, 1903 (New Delhi: Munshiram Manoharlal Publishers), p. 428.
22. 'A Cigar; but the term has been appropriated specially to cigars truncated at both end, as the Indian and Manilla cigars always were in former days': Ibid., p. 188.
23. 'East India (Product). Part I. Reports on the Tea and Tobacco Industries in India. Presented to both houses of Parliament by command of Her Majesty'. London: Her Majesty's Stationery Office; 1874. In this: J.E. O'Connor (1874), Tobacco in India. Report on the production of tobacco in India, in *Reports on the Tea and Tobacco Industries in India*. London: Her Majesty's Stationary Office, p. 139.
24. J.E. O'Connor (1873), 'The Tobacco Industry in India'. *Journal of the Society of Arts*, 22, p. 790.
25. M. R. Montgomery (1862) *The Progress and Present State of British India: A Manual for General Use, Based on Official Documents, Furnished under the Authority of Her Majesty's Secretary of State for India* (London: Sampson Low, Son & Company), p. 285.
26. A Public Consultation. Letter from Mr R. Bathurst, Collector of Tirhut, to Mr J. White, Sub. Secretary, reporting that the cultivation of the Virginia tobacco will be taken up on the arrival of the seed. Home Department. 1790 (6 August), No. 28 (West Bengal State Archives, Calcutta).
27. F. Watson (1874) *The Cultivation and Curing of Tobacco in Bengal* (Calcutta: The Bengal Secretariat Press); A. K. Biswas (1998) 'Agricultural education PUSA: Little known history of the imperial agricultural college' in A. K. Biswas (ed.), *Understanding Bihar* (New Delhi: Blumoon Books), pp. 268–82.
28. Hahn, *Making Tobacco Bright*, pp. 78–9.
29. B. Fuller (2006) *The Empire of India* (London: Elibron Classics. Replica Edition), 1913, p. 57.
30. Cf. C. Tripp (1896) 'The tobacco industry of India and the Far East' *Journal of the Society of Arts,* 44 (13 March), 367–79.
31. (1908) *The Imperial Gazetteer of India: The Indian Empire*, vol. 3: *Economic* (Oxford: Clarendon Press), p. 51.
32. Cf. Hahn, *Making Tobacco Bright*, p. 8.
33. D. Kumar (1997) 'Science in agriculture: A study in Victorian India' *Asian Agri-History*, 1 (2), 77–103.
34. L. S. S. O'Malley (1907) *Bengal District Gazetteers: Darbhanga* (New Delhi: Logos Press), reprinted in 2013, p. 154.
35. For example: G. L. C. Howard and K. Ram (1924) *Studies in Indian Tobaccos*, no. 4: 'Parthenocarpy and parthenogenesis in two varieties of nicotiana tabacum L. –var. Cuba and var. Mirodato'; no. 5: 'The Inheritance of Characters in Nicotiana Rustica L.' Memoirs of the Department of Agriculture in India, Botanical Series XIII (1) (Calcutta: Thacker, Spink & Company).

36. A. Howard and G. L. C. Howard (1910) *Studies in Indian Tobaccos*. No.1. 'The types of nicotiana rustica, L. yellow flowered tobacco'. Memoirs of the Department of Agriculture in India. Botanical Series. Calcutta: Thacker, Spink & Co.1910; III (1) March. A. Howar, G.L.C. Howard. *Studies in Indian Tobaccos*. No.2. 'The types of nicotiana tabacum, L. Botanical Series' (Calcutta: Thacker, Spink & Company), 1910; III (2) March.
37. Around 1900 the importance of fermentation for tobacco's aroma had been discovered and as a result more emphasis was being paid to curing practices: N. G. Clarke (1899) 'The flavour of tobacco' *Contemporary Review,* 75 (January–June), 880–5.
38. L. E. Howard (1953) *Sir Albert Howard in India* (London: Faber and Faber), pp. 19–41.
39. Ibid., pp. 122–3.
40. Ibid., p. 124.
41. 'Scientific Report of the Agricultural Research Institute', Pusa (1925–26). Including the reports of the Imperial Dairy Expert, Physiological Chemist, Government Sugar Expert and Secretary, Sugar Bureau (Calcutta: Government of India) 1925–26, p. 3.
42. F. J. F. Shaw and K. Ram (1928) 'The production of cigarette tobacco by flue-curing' *Bulletin of the Agrarian Research Institute, Pusa*, 177, p. 187.
43. S. R. Sayani, (191?) *Agricultural Industries in India* (Madras: GA Natesan & Company), p. 68.
44. L. S. S. O'Malley (1917) *Bengal, Bihar and Orissa, Sikkim* (Cambridge: Cambridge University Press), p. 243.
45. A. Bhattacharyya (1986) *Swadeshi Enterprise in Bengal 1900–1920* (Calcutta: Sm. Mita Bhattacharyya), p. 172.
46. C. Basu (1988) *Challenge and Change. The ITC Story: 1910–1985* (Hyderabad: Orient Longman), pp. 23–44.
47. Report of the Agricultural Research Institute and College, Pusa (1907–1909), 1909, p. 7.
48. Report of the Agricultural Research Institute and College, Pusa (1910–1911), 1911, p. 37.
49. Report of the Agricultural Research Institute and College, Pusa (1911–1912), 1912, p. 7.
50. Report of the Agricultural Research Institute and College, Pusa (1911–1912), 1912, pp. 44–5.
51. Report of the Agricultural Research Institute and College, Pusa (1912–1913), 1913, p. 36.
52. Report of the Agricultural Research Institute and College, Pusa (1914–1915), 1915, p. 43.
53. Report of the Agricultural Research Institute and College, Pusa (1911–1912), 1912, p. 47.
54. Report of the Agricultural Research Institute and College, Pusa (1913–1914), 1914, p. 35.
55. Howard, *Sir Albert Howard in India*, p. 123.
56. Cf. (1915) 'Indian tobacco' *Journal of the Royal Society of Arts,* 63 (3264) (11 June), 696–7.
57. Report of the Agricultural Research Institute and College, Pusa (1917–1918), 1918, pp. 47–8.

58. T. R. Filgate (1917) 'The Behar Planters' Association, Ltd.' In *Somerset Playne FRGS, Compiler. Bengal and Assam, Behar and Orissa, their History, People, Commerce, and Industrial Resources* (London: The Foreign and Colonial Compiling and Publishing Company), p. 351.
59. O'Malley, *Bengal, Bihar and Orissa, Sikkim*, p. 243.
60. Report of the Agricultural Research Institute and College, Pusa (1913–1914), 1914, pp. 36–7.
61. D. Arnold (2000) *The New Cambridge History of India: Science, Technology and Medicine in Colonial India* (Cambridge: Cambridge University Press), p. 186.
62. B. B. Misra (1983) *District Administration and Rural Development in India: Policy Objectives and Administrative Change in Historical Perspective* (Delhi: Oxford University Press), pp. 176–7.
63. N. G. Mukerji (1901) *Handbook of Indian Agriculture* (Sibpur: Civil Engineering College), p. 310.
64. Agenda for the Meeting of the Advisory Board of the Imperial Council of Agricultural Research Held at Delhi from 25 to 29 January 1932, p. 176.
65. *Annual Report of the Imperial Council of Agricultural Research 1940–1941* (New Delhi: Manager of Publications Government of India Press, 1941), p. 15.
66. Agriculture and Animal Husbandry in India 1937–38. Imperial Council of Agricultural Research (1940), *Agriculture and Animal Husbandry in India 1937–38* (Delhi: Agricultural Research Publications), pp. 60–1, 316.
67. R. Chaturvdei (2007) *Bihar Through Ages*, 4 vols (New Delhi: Sarup and Sons), p. 117.
68. A. N. Das (2008) 'Swami and Friends: Sahajanand Saraswati and those who refuse to let the past of Bihar's peasant movements become history' in W. R. Pinch (ed.), *Speaking of Peasants: Essays on Indian History and Politics in Honor of Walter Hauser* (New Delhi: Manohar); pp. 193–233.
69. L. S. S. O'Malley (1907) *Bengal District Gazetteers: Darbhanga* (New Delhi: Logos Press), reprinted in 2013, p. 40.
70. Ibid., p. 39.
71. Hunter, *A Statistical Account of Bengal*, p. 87.
72. Cf. A. A. Yang (1998) *Bazaar India: Markets, Society, and the Colonial State in Bihar* (Berkeley: University of California Press), pp. 219–20.
73. Cf. L. Singh (2012) *Popular Translations of Nationalism: Bihar, 1920–1922* (Delhi: Primus).
74. S. K. Mittel (1978) *Peasants Uprisings & Mahatma Gandhi in North Bihar: A Politico-economic Study of Indigo Industry 1817–1917 with Special Reference to Champaran* (Anu Prakashan: Meerut); P. K. Shukla (1993) *Indigo and the Raj. Peasant Protests in Bihar 1780–1917* (Delhi: Pragati).
75. S. Playne FRGS, compiler (1917) *Bengal and Assam, Bihar and Orissa, their History, People, Commerce, and Industrial Resources* (London: The Foreign and Colonial Compiling and Publishing Company), pp. 622–30.
76. H. Cox (2000) *The Global Cigarette: Origins and Evolution of British American Tobacco, 1880–1945* (Oxford: Oxford University Press), p. 229.
77. P. Lal (2009) 'Bidi – A short history. Special section: Tobacco control historical notes' *Current Science*, 69 (10) (25 May), 1335–7.
78. Information on the spread of hostile feeling in rural areas during the non-cooperation propaganda. Government of Bihar and Orissa. Political Department. Special Section. Confidential File no. 375, 1920.

79. Cox, *The Global Cigarette*, p. 232.
80. Agenda for the Meeting of the Advisory Board of the Imperial Council of Agricultural Research Held at Delhi from 25 to 29 January 1932, p. 176.
81. Peninsular Tobacco Company Monghyr. Government of Bihar and Orissa. Special Section. Confidential File no. 307, 1930.
82. Cf. P. Gosh (2008) *The Civil Disobedience Movement in Bihar (1930–1934)* (New Delhi: Manak), pp. 78–9.
83. Monghyr Tobacco Factory. Government of Bihar and Orissa, Special Section. Confidential File no. 207/34, 1934.
84. Socialist activities in Jamalpur and in the Tobacco Factory in Monghyr. Jamalpur Rly. Labour Union. Political Department. Special Section. File no. 11, 1935 (Part II).
85. R. S. Pande (1950) *Notification on 12th January 1950. In the Bihar Gazette Extraordinary (Labour Department)* (Patna: Government of Bihar).
86. Indian Leaf Tobacco Development Company (1943) *A Story of Co-Operation in India* (London: Harrison & Sons).
87. Hahn, *Making Tobacco Bright*, pp. 66–7.
88. B. Mouser, E. Nuitjen, F. Okry and P. Richards (2012) *Commodity and Anti-Commodity: Linked Histories of Slavery, Emancipation and Red and White Rice at Sierra Leone*, Commodities of Empire Working Paper no. 19 (Milton Keynes: The Open University), p. 3.
89. Indian Central Tobacco Committee (1960–61) 'Annual report of the hookah & chewing tobacco research station'. *Pusa*.

3
Upland and Lowland Rice in the Netherlands Indies

Harro Maat

Introduction

The global trade in rice is historically recent and its total quantity relatively small. Colonial explorations were the main incentive for its development, but only beginning in the 19th century did rice-producing countries in Asia export rice outside the continent in bulk. In previous centuries rice was transported over land and across the oceans in small quantities, mostly for consumption on the journey. The industrialisation of north-west Europe in the 18th century triggered the emergence of rice as a global commodity. The Carolinas in North America were the first colonies to produce rice for Europe. With the rapid changes in shipping capacity and shipping routes, in particular the opening of the Suez Canal in 1869, Asian countries took over and continued to dominate exports of rice to Europe. Although several million metric tons are transported each year, the volume of rice for international trade has been low, at the level of 5 per cent, and even today only amounts to 7 per cent of total production.[1] Because trade within rice producing countries is at a higher level, about 50 per cent, and due to its overall importance in national food security, rice is foremost a strategic commodity.

The material presented here is primarily from the Netherlands East Indies and shows that rice is a strategic commodity in two ways. The most direct strategy to control food is regulation of food supplies. For many centuries local rulers, colonial administrations and national governments have taken decisions about export restrictions for rice, amounts to keep in stock and purchases on national and international markets. The capacity to redistribute food among the population is an important political instrument. Conversely, food shortages and famines

undermine the authority of leaders and administrations.[2] In most Asian countries, control over the national rice market and securing access to international markets are high on the political agenda. A second and related strategy is the improvement of rice production. Extending the acreage grown with rice, and making land and labour of rice farmers more productive, implies a potential surplus production, serving local and national markets and potentially international markets, securing the food situation and the powers that be. Especially when governments offer subsidies or regulate prices, production increases are an attractive option for rice farmers. However, there is considerable variation in rice cultivation practices, a large diversity of types of rice produced, differences in productivity levels and unequal opportunities for productivity increases. A major distinction is between rice grown in inundated fields, commonly referred to as lowland rice, and upland rice, grown in rainfed 'dry' fields.[3] Commodity rice is typically associated with lowland rice. Following the argument developed in the introduction to this volume, that the anti-commodity emerges as a result of increasing pressure from global commodity markets, the changing international rice market from the second half of the 19th century in connection with other markets for colonial commodities created the conditions for upland rice to become an anti-commodity. Whereas for many centuries upland rice and lowland rice were two variants of rice cultivation, determined by features of the landscape and climatic conditions, the focus on global markets that characterised the colonial cultures of the 19th and 20th centuries created a split between the two. Lowland rice became the focus of colonial strategies to control access to national and international food markets. When such control was guaranteed, upland rice was viewed as redundant and better replaced by production of other crops. However, farmers in upland areas continued to grow rice on 'dry' fields. The emergence of global markets implied new opportunities for these farmers, but this increased rather than reduced the importance of rice in their upland farming systems.

This chapter deals with the period from about the 1870s until the end of colonisation and presents the attempts of the colonial administration to enhance the commodification of rice. Much effort was put into turning upland rice cultivation into lowland cultivation, to the effect that upland rice became anti-commodity. In Indonesia, the Netherlands Indies before independence, lowland and upland rice are not equally distributed across the islands. The two islands mainly discussed in this chapter are Java and Sumatra, the former dominated by lowland rice, the latter by upland rice. Characteristics of the rice cultivation practices on

these islands are presented in the next section. The following sections describe the various mechanisms behind the commodification of rice as an effect of the emerging global economy in which the Netherlands Indies became an important player. The Agrarian Law of 1870, which arranged long-term land leases by private companies, resulted in a rapid expansion of European plantations on Sumatra, mainly growing tobacco, rubber and oil palm. Similar changes affected Borneo and Sulawesi, two other large islands where upland rice dominates. Another important feature of these islands is the extensive coverage of tropical rainforest. The rice cultivation practices of most farmers on these islands are inherently connected with the forest. Shifting cultivation practices, *lading* in the local language, were practised in the forest-grown regions, competing over access to the forest with the colonial forestry service and logging companies. Moreover, local farmers were competing over access to the commodity markets with the European estates. As investigations on *lading* practices increased, the colonial experts discovered the specific status of rice in these systems. Because the government perceived rice exclusively as a strategic commodity, little was done to develop upland rice.

Rice cultivation on Java and Sumatra

Rice grows well in warm climates and wet soils. The Asian climate provides optimal conditions during the monsoon period, roughly between late April and early October. The high levels of rainfall in this period quickly inundate fields that are flat and do not drain very well. Rice grows well in inundated fields. The human capacity to make use of the natural conditions through skilful application of tools and techniques to adjust the landscape and affect the growing conditions formed the basis of flourishing economies in many parts of Asia.[4] The availability of skilled labour is a major condition for intensification. These conditions existed on Java, where *sawah* cultivation flourished over the centuries. Labour demands typically peak during the transplanting and harvesting periods. Other activities, like ploughing, levelling, seedbed preparation and weeding, and preventing damage by rats or birds require coordination of labour on a daily basis. A colonial writer in the 19th century explains that the best fields are those that have no shortage of water, are close to the village so that people can supervise their fields easily and away from a forest edge to be less prone to intrusion from birds or boars.[5]

In the dry season fields can be inundated from an irrigation canal, allowing a second rice crop, mostly maize, pulses and peanuts, which

require much less water, to be grown. Many food crops are introductions from colonial and precolonial exchanges. Cassava had a late arrival on Java but was taken up very quickly by farmers as an additional food crop.[6] In the dry season *sawah* fields thus can become *tegalan*, the local name for 'dry' fields, but *tegalan* are more commonly located in higher areas and on slopes where no water can be retained for *sawah* cultivation. Rice is also grown on these fields, known as *padi gogo* or *gaga*. Colonial administrator Steijn-Parvé noted that farmers maintained a strict separation between *sawah* rice and rice grown in uplands. Despite lower yields *padi gogo* was highly valued by the local population. 'The rice obtained [from *tegalan*] has smaller grains but a good taste: many prefer this rice as a dish over *sawah* rice, especially when it is freshly harvested'.[7] Grain quality and yield are partly an effect of the 'dry' field conditions but also have a genetic component, as different varieties grow on *tegalan*. The number of rice varieties on Java and other islands is in the order of several thousands. Most early observers recognised the variation although an official taxonomy of rice was poorly developed until the early 20th century. Colonial writers distinguished on overall features, typical shapes and colours of stem, leaves and grains, and post-harvest features related to storage, pounding and cooking.

In forest-covered places fields were made by clearing trees and other vegetation. This was a continuous process. Farmers possessing a *sawah* looked for opportunities to expand their acreage. In less populated areas clearing a piece of forest was part of cyclical cultivation practice in which a field was cultivated, after which a new piece of forest was cleared, the old field left fallow until fully overgrown with forest. This shifting cultivation method, called *lading*, was common in all forest areas of the Indonesian archipelago. Settlements typically moved with each shift. Some communities built temporary housing near the fields, while maintaining a permanent village settlement. Rice is the first crop sown on a *ladang*. With some variation, from one to three rice harvests are possible before the field is left for other crops or abandoned. Other crops are typically sown right after and between the rice plants. Farmers may also plant perennial shrubs and trees that can be harvested later. Under certain conditions farmers may decide to cultivate cleared fields more permanently. Population increase is usually seen as the main reason, but other crucial factors include options to improve maintain or increase soil fertility. On places where soil conditions are good, mainly the volcanic soils of Java and Bali, shifting cultivation gradually disappeared and *sawah* cultivation dominated. On Sumatra and other forest-dominated islands, these conditions were not met.

Rice and the global economy

Agricultural products became global commodities when techniques for navigation and building ships allowed for overseas transport. Connections between Europe and the Indonesian islands were first established by the Portuguese and later taken over by the Dutch. The East Indies Company (VOC) controlled overseas trade for almost two centuries. Rice was not shipped to Europe, except for victuals, but the VOC used rice as a local currency. Much of the Dutch trade focused on high-value spices that were grown primarily in the eastern part of the archipelago. Surplus rice grown on Java and other islands in the Western area was transported eastward and exchanged for cinnamon, cloves and other products for the European market.[8] Likewise, there was a lively trade in rice between the islands by local traders, carrying a variety of goods across the islands by *prahu*, a sailing ship with a capacity varying from about ten up to over 150 gross tons. Surplus production of more substantial quantities reached European markets in the 19th century.

Rice has been on the diet of Europeans for many centuries. Substantial supply came from Europe itself. Italy became a major producer in the 16th century and exported rice to northern European states.[9] The largest share of European rice imports came from American territory. The slave-based rice plantations in South Carolina and Georgia became major providers of rice for the European market but were taken over by Asian countries when transport options and control over production improved.[10] Colonial territories in Asia became the main suppliers. Because European consumers were used to Italian and Carolina rice, both types having bigger and rounder grains than most Asian rice types, the Dutch tried to introduce Carolina seeds on Java. The British seem to have been doing similar experiments in India.[11] Reports refer to 'Carolina paddy' or 'gold seed', which must have been the variety Carolina Golden, a major cultivar grown on the US Atlantic coast in the mid-19th century. Experiments with Carolina rice had a short-lived revival in the early work of the colonial Department of Agriculture at the end of the 1900s and early 1910s. The breeders did have some good results but discovered that Javanese farmers were not interested.[12] Exports to Europe steadily increased in the same period, mainly originating from a small area in West Java producing high-quality rice, making a change to Carolina rice pointless.

The importance of rice as a commodity also increased because of other emerging commodities. The Agrarian Law of 1870 arranged land leases for European companies. All the land that could not be claimed

as private property was designated as state property, most prominently forest regions. The reforms caused a sudden boom in plantation agriculture, especially on Sumatra, where over 100 tobacco estates were created in a decade, later followed by rubber and oil palm plantations. Most plantations concentrated in the north-east of the island, with Medan as the centre of commerce. The lease contracts stipulated compensations to the local population for any loss of land or shared land use. The latter was practised on tobacco plantations, where fields were used in a cycle of seven years to minimise disease risk and soil fertility loss. In the years following a tobacco harvest farmers from surrounding villages were allowed to use the plots.[13] However, until the 1920s there was very little control over implementation of the contracts. The plantation owners preferred to let their workers grow food on the fallow tobacco fields. In this way the companies could reduce the costs for food supplies.

Between 1880 and 1900 the size of the plantations had increased considerably, resulting in a proportional increase in the demand for labour. The European planters initially recruited Chinese and Malayan workers but more and more relied on labour migrants from Java.[14] The overall population of the plantation belt, an initial 150,000 in 1880, had more than tripled in 1900 and would continue to increase to 1.5 million in 1930. A comparison of the years 1905 and 1917 by the statistical bureau shows that the population on the east coast grew twice as fast as did the overall population on the island.[15] These were all newcomers – Europeans setting up businesses, technicians and administrators employed by the plantations, a handful of government officials but foremost the Asian migrant workers. The demographic shift in the region created a new dynamic in the food supply. Rice imports became more important for Sumatra and similar islands where plantation agriculture and mining, the most labour intensive sectors of the colonial economy, developed. About 20–30 per cent of the total rice imported to east Sumatra was to feed plantation workers. Rice imports in the 1910s were five times higher than in the 1890s. Where food security was generally considered a state affair, a steady food supply was essential for the plantation economy, best illustrated by the fact that contract labourers received most of their wages in food coupons that could be exchanged in the plantation food stores.[16] Imported rice was the currency by which plantation labourers were paid, and by implication rice shortages or poor quality put estate managers in serious trouble.

The demographic shifts triggered by the colonial economy drove colonial governments to invest in food production and gaining control

over food markets. This required knowledge and expertise that was not widely available in the early 20th century. In the 1910s, the First World War put further pressure on international markets, including the market for rice. This was also the period when the agricultural research facilities created by colonial governments started to produce new knowledge about local agricultural production.

Shifting from uplands to lowlands

In 1905, a Department of Agriculture (DoA) was added to the colonial administration with the aim to stimulate the agricultural economy, in particular the production of food crops. To gain control over the food situation, the colonial administration needed a way to monitor the regional distribution, production capacity and expected yields. Over the 19th century yield data for rice was collected to impose land rent, a system of taxation for the local population. The British governor Raffles had introduced a village settlement system in the 1800s, charging a percentage of the rice harvest. Estimates of total acreage grown with rice and yield data were very inaccurate, and the land rent was typically settled in a deal between administrators and village chiefs.[17] Frequent shortages and some serious famines over the course of the 19th century revealed the limited control over local food markets. Two offices of the DoA had to produce better knowledge. The Agricultural Extension Service (*Lanbouwvoorlichtingsdienst*), set up in 1912, coordinated the activities of agricultural advisers, who introduced new cultivation practices, seeds and other inputs developed and tested by the research departments. A complementary task was to collect information about agricultural production. These figures were processed by the Statistical Office (*Centraal Kantoor voor de Statistiek*), established in 1915. The war situation prompted the use of these instruments.

On Java and other areas where *sawah* rice production dominated and land was relatively scarce, intensification of production was the major strategy. Breeders from the Department of Agriculture looked for more productive rice varieties. Substantial yield increases were achieved in the 1920s with a combination of short-duration varieties and improvement of irrigation infrastructure. This allowed a change from the dominant pattern of monsoon rice alternated with 'dry' crops to the planting of a double rice crop each year. In places where upland rice fields dominated, the government looked for ways to increase wetland rice production by opening up new land and irrigation infrastructure. In 1912 and 1913 harvest failures in the northern parts of Asia resulted in high demand

on the international rice market, and the Dutch colonial government responded with a total ban on exports of rice. The outbreak of the First World War resulted in a short-lived panic on the international rice market in 1914.[18] The Dutch effectively negotiated trading space with belligerent powers. Two major players on the international rice market were Burma, under British control, and French Indochina. Although Germany had no control over any rice-exporting country, they were a major importer of colonial goods, in particular essential commodities to feed the war industry such as tin and rubber, or medical goods like cinchona bark out of which the antimalarial quinine was extracted.[19] Rice exports from Java to the Netherlands reached over 30 million tons annually in the early 1910s, partly to supply the German food market.

The attempts to control the national food markets by regulating foreign trade in rice had little effect on the food situation in the villages. Rice exports to Europe were only about 1 per cent of total production on Java, and the Dutch traders controlling this market had no experience with internal trade, which was primarily controlled by Chinese businesses.[20] The European companies buying rice for their workers were in a similar position. They had contacts on the Asian markets, dealing primarily with British and French trading companies, but were less familiar with internal trade. The restricted imports of foreign rice thus had a bigger effect on available stocks than export restrictions could compensate for. Increased production of rice thus was a political necessity.

Research stations on Sumatra, created with collective funds from the European companies, had worked on food crop production since the beginning of the 20th century. For example, the Deli research station for tobacco had experimented with several food crops on the fallow tobacco fields, mainly maize, soybean, groundnut, cowpea and rice.[21] Although technically possible, making it cost-effective required competing with rice production in the main exporting rice deltas of South-East Asia. The impeding effects of the submarine warfare towards the end of the war period, and several harvest failures in the immediate post-war years, increased food prices, making alternative forms of production more attractive. In 1920 the Deli tobacco company (*Deli Maatschappij*) experimented with mechanised rice production.[22] Using tractors and disc ploughs, it cleared and ploughed over 200 hectares of tobacco land for rice cultivation. The works continued for several years but were stopped when losses reached about 400,000 guilders.[23] A similar initiative came from the research station for rubber. The director of the station considered a rice farm similar to that of the Deli company a feasible option. However, the plan was never realised because investment

capital was lacking.[24] These two private-sector initiatives for mechanised rice farming were inspired by a much bigger and more ambitious plan that was run by the government.

In early 1919 the government had begun land preparation for a government rice farm in the lowlands of the *Musi* river near Palembang.[25] DoA director J. Sibinga Mulder, who came to office in 1918, was inspired by the mechanised rice schemes in the southern United States. The first rice harvest was in 1921. However, the harvested amount was just a tiny fraction of the projected yield. Results did not improve in subsequent years and the farm was closed in 1923. The overall losses were over a million guilders.[26] By the time the experiment finished, the international rice market had stabilised and rice imports turned out to be the best buy for the European companies. The failed experiments with mechanised rice farming revealed that a quick solution to increase rice production on islands like Sumatra and Borneo was not easily achieved. The alternative was a more gradual shift to *sawah* cultivation, run by local farmers. The approach to increase rainfed wetland and irrigated rice on islands where *tegal* fields dominated implied investments in irrigation infrastructure and attracting farmers to work on the newly created *sawahs*. Pelzer describes two major investments in water control measures to create rice fields from coastal swamps close to Medan. The first project, in an area called Sisir Gunting, was initiated in 1917 and comprised about 3,000 hectares of land. Most of the families settling in the region, about 500 in 1920, were Banjar people, originating from Borneo and working as labourers on nearby tobacco estates. The interest in acquiring rice fields faded when rice imports recovered in the early 1920s. Moreover, farmers did not maintain the infrastructure as expected, and the government had to arrange for the cleaning and repair of canals and water works. A similar picture emerges from the second project, a constructed canal serving both tobacco fields and rice fields. Farmers, mainly of Javanese origin, were given 0.75 hectare of land each under the condition that they would maintain the canals. Pelzer visited the areas in 1955 and found both projects deserted: 'The land had already been lying idle for several years and had reverted to second-growth forest. Ironically, the labourers who had maintained the canal were still being employed and were keeping the grass cut along the banks of the dry and useless irrigation canal.'[27]

Another plan to increase *sawah* cultivation on Sumatra involved migration of Javanese rice farmers to settle in lowland areas in Sumatra. Starting with a small number of families, about 100 persons were transferred from Java to Sumatra each year during the 1910s.[28] The

transmigration policy continued in following decades even though the impact was considered marginal. The *tegal* fields, permanent or swiddens, remained by far the dominant form of rice cultivation for most of the 20th century.

The experiments with mechanised rice schemes and the programmes to increase lowland *sawah* cultivation on Sumatra were basically attempts to bypass local cultivation strategies for rice. There was a widespread conviction that Sumatran farmers lacked the required knowledge and skills to cultivate the land effectively and increase productivity. Overall, the Sumatrans, especially people from the Aceh region, had acquired a bad reputation among colonial officials and military commanders. The cultivation methods of the local population and their way of life more generally were portrayed in terms of vagrancy and robbery. This image did not change very much after the inflow of European plantation production. Frequent conflicts over land sustained an image of the Sumatrans as lazy and their cultivation practices as inefficient and exhaustive. The Dutch word for the shifting cultivation practices that dominated in most regions of Sumatra is *roofbouw*, which translates as robbery cultivation.[29] However, there were other voices providing a better account of the Sumatran farming systems.

Rainfed rice and commodity production

The tensions and conflicts created by the emerging colonial economy on forest-dominated islands like Sumatra, Borneo and Sulawesi were about access to land and markets.[30] The shifting cultivation practices of local farmers implied a community-based land entitlement that clashed with the private land rights assumed in the colonial agrarian law. The long-term lease agreements between European planters and the population were settled by local rulers, many of them more concerned about their own wealth than the interests of the farming communities. The resentment this created often resulted in plantation crops being set on fire or outright revolts. Only the tobacco estates, cultivating in a rotation scheme, were slightly more symbiotic with the local farming systems. Because the soil and climate of these forested islands are suitable for tree crops like rubber and oil palm or shrubs such as pepper or fibres, local farmers eagerly adopted these crops as an additional source of income. The integration of cash crops in the shifting cultivation practices had several advantages, mainly a reduced vulnerability to diseases and price fluctuations, turning local farmers into serious

competitors of the European estates. Besides conflicts over agricultural land between local farmers and the European estates, there were also conflicts of interest over forestland. Access to the forest implied access to timber. The colonial forestry service made arrangements to separate logging and shifting cultivation in designated areas, putting further restrictions on local communities.[31] Most of the administrative measures to accommodate the changing colonial economy were backed by scientific investigations.

In the 19th century several scientific expeditions were undertaken to explore the island of Sumatra and other islands, parallel to the establishment of administrative control. In the early 1860s Miquel, a botany professor from Utrecht University and head of the national herbarium in Leiden, published a study on the plants of Sumatra based on a variety of collections and descriptions from people who, unlike himself, had explored the island. The Geographical Society (*Aardrijkskundig Genootschap*) organised a series of expeditions in the late 1870s.[32] These descriptions provided much detail about the people and their cultures and agricultural practices. The underlying economic interest was to exploit the plant resources, 'now already important for commerce, in later times to become even more important, and provide productive sources for society in the future'.[33] The investigations continued in private research stations created by the plantation companies in the 1890s and, a decade later, the DoA. The work of the research stations entailed more detailed research on increasing productivity and fighting plant diseases.[34] The DoA focused on improved practices for indigenous agriculture.

The rules and regulations for the use of the forest reserves raised all sorts of questions about the rejuvenation capacity of the forest and the impact of methods employed by logging companies, plantations and local communities. Studies included the effect of shifting cultivation, in particular the effect of burning the felled trees and shrubs on a cleared piece of forestland. Besides the risk of fires running out of control, there was a concern that the burning practices would have a negative impact on organic material, reducing soil fertility. Colonial foresters and agronomists discussed these issues throughout the colonial period but most studies refuted the notion of a negative impact of burning. A report from 1903, for example, provided an analysis of soil samples from a burned field that compared the measured nitrogen content and organic material with average values of natural mixed forest. The results showed that burning has no influence on the total nitrogen content nor on the content of humus. Warnings were added, however,

that soil conditions are better when the material is spread evenly over the field before burning and some tillage is applied after the burning.[35] The topic was also discussed at a soil conference in Djokjakarta in 1916, where most of the agronomists present confirmed the earlier findings. 'The impact of the burning on the soil is not too severe. The amount of ashes is in most cases not very large and organic matter lying right on or below the ground is burned only partially. The heat does not enter the soil very deeply.'[36] The author concludes that for these reasons the term robbery cultivation (*roofbouw*) is better replaced by humus cultivation (*humusbouw*). Similar observations can be found in other studies, creating a more positive image of the *lading* practices, if applied properly. For the foresters this might have been good news insofar as the shifting cultivation practices did not negatively affect the reforestation process. Although the negative impact of *lading* cultivation appeared to be the wrong excuse for restricting this form of agriculture, the colonial forestry service did not need much of an excuse to reduce the area of forest for local farming communities and claim the forest for their own benefit. The key question was whether farmers could be offered an alternative.

With the appointment of agricultural advisers on Sumatra, Bornea and Kalimantan, more information about the local farming systems on these islands became available. One of the advisers, M. B. Smits, played a prominent role in the discussions.[37] He addressed the overall economic implications of changing the *lading* practices and drew some lessons from the macro-economy of Sumatra. He argued that farmers earned much more from selling rubber, coffee, pepper and fibres than from selling rice or other food crops. Farmers – native Sumatrans and migrant smallholders – opted to grow these cash crops rather than *sawah* rice or even to sell their labour to plantations.[38] Improving the food situation by creating areas for intensive *sawah* rice production run by migrant Javanese rice farmers, as envisioned by the government, would imply an unrealistic transformation of the agricultural sector. The only way to produce more rice was to find a way to intensify upland rice without taking away the option of growing export crops. Over the years more evidence confirmed this vision. A 1930 paper from the economic division of the DoA presents data from four districts on Sumatra and Borneo.[39] The pattern, as reproduced in Figure 3.1, shows little fluctuation of rice imports despite a sharp increase in the value of the main cash crops grown by the local farmers. The authors conclude that farmers did not neglect growing rice while increasing production of other crops, a combination that 'strengthens the economic basis of indigenous

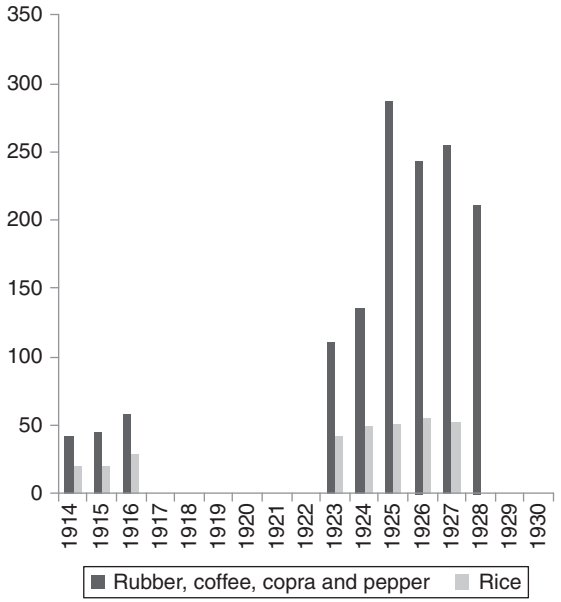


Figure 3.1 Comparative value of commodity exports and rice imports of four districts on Sumatra and Borneo
Source: Data taken from Luytjes en Tergast, *Bevolkingscultuur van handelsgewassen*.

farming business considerably'.[40] They warned that efforts to attain food self-sufficiency for these islands should not lead to extraction of labour from cash crops production, as this would reduce the overall economic profit.

The agricultural experts of the DoA acknowledged the importance of rice in the farming systems of Sumatra, Borneo and similar islands. They qualified the situation on Sumatra and Borneo as 'fortunate' because farmers helped to reduce the overall rice deficit and at the same time created fallback options for their own business. Whereas in the 1910s food security was the top priority, in the 1920s an overall economic profitability of indigenous agriculture determined the policy agenda. In 1926 the department head, Rutgers, who had previously headed the private research station for rubber, stated that:

> government interference with indigenous agriculture should not have as single or ultimate aim the increase of food production, but the improvement of farm profits in general.[41]

For farmers in the lowland areas this implied increased production of rice and other food crops as this was their main business. For farmers working in areas where rice did not yield very well, the director told the agricultural advisers to 'insist to have rice cultivation replaced by the production of cash crops' when that would mean more income.[42] These accounts well illustrate the strategy of the DoA to fulfil its mission in developing the local agrarian economy. Once the agricultural advisers realised that the farmers responded well to economic incentives and easily took up new crops that fit within their farming systems, the advisers could offer research-based techniques to further the productivity with improved varieties, adjusted cultivation methods and additional inputs. The investigations into the local farm economies also revealed that growing a variety of crops in extensive *lading* systems balanced economic opportunities and ecological viability. However, the colonial economy required surplus production to feed global markets with industrial crops and provide national food security. From this perspective the fact that farmers on Sumatra and Borneo produced rubber and other cash crops made perfect sense. That they also continued to grow rice was 'fortunate' but was advised against when economic opportunities were found elsewhere.

Upland rice as anti-commodity

In the Netherlands Indies the focus on global commodity markets determined the mindset of European companies and the colonial administration. The rapid expansion of the colonial economy after 1870 implied a major transformation of Indonesian society, in particular on Sumatra, Borneo, Kalimantan and in other areas where colonial domination came in late and production of tobacco, rubber, oil palm and other export crops took off on the basis of land leases to foreign companies, developing large estates for the production of these crops. The colonial government and most prominently the European planters considered the confiscation of land for plantations an obvious procedure in the exploitation of the colony. Reluctance and resistance from the local population was considered an inconvenience, caused by a lack of economic rationality and diligence among the local population. Even in the 1950s, when the geographer Karl Pelzer visited a European plantation on Sumatra, he repeatedly heard planters complaining about the 'unbelievable laziness of the autochthonous population'.[43] The expanding planation economy was not the only reason for resistance from the local population. The forest-covered parts of the Indonesian archipelago

formed a rich source of timber and other forest products. Control over the forest by the colonial forestry service and concessions to logging companies were an additional source of conflict and resentment among people living in the forest zones. These conflicts emerged on all islands. Nancy Peluso, in her book on forest resource control and resistance on Java, points out that the restrictions were primarily restrictions on mobility. 'For many people in forest communities, their actual use of the forest changed much less than did their legal access.'[44] The material presented in this chapter seems to underline such a conclusion. From about 1900, accounts from colonial foresters and agronomists about *lading* cultivation practices by farmers on Sumatra and other islands point out that this form of agroforestry is not harmful for the forest and makes sense given the available land, ecology, soil fertility and available labour. Such observations were always followed by an argument that the reality of competing claims over the land and forest made it necessary to restrict the area where *lading* could be practiced and, if possible, turned into more permanent forms of agriculture. The new division of land implied specific compartments for each economic activity: planters producing commodities for the global market, logging companies producing timber and local farmers providing food and other inputs in service of the colonial economy. The restrictions on mobility also implied a restriction on the forms of production.

The ideal of a compartmentalised economy was a far cry from the messy and rapidly changing reality. The emergence of the plantation economy changed the demographic situation, in particular the composition of farming communities. Many end-of-contract labourers, originating from Java and other places, settled as smallholder farmers. Moreover, economic opportunities for smallholder farmers were not restricted to production of food and other items to serve the European economy. Smallholders produced for global markets as well, often realizing better quality material at lower costs. The colonial administration became aware of this after it had formulated a policy to stimulate the indigenous economy. To effectuate this policy, experts from the Department of Agriculture studied the smallholder farming systems to find out how these could be made more productive. Further intensification of cash crops seemed an obvious choice given the economic benefits. Although a formal policy, the expansion of smallholder cash crop production was primarily a spontaneous development, because very few agricultural advisers were present outside Java.[45] In other words, the official policy to stimulate the indigenous economy was primarily a post hoc acknowledgement of economic expansion. The collected agricultural statistics

from Sumatra, Borneo and other islands also made clear that farmers continued to grow rice despite the expansion of cash crop production. Agricultural economists' comments that this was a fortunate situation reveals the colonial perspective on rice as a strategic commodity. The colonial government did not have to arrange additional rice imports when farmers continued to grow rice. However, from the prevailing economic logic this practice did not make much sense, especially after 1920 when the international rice market was running smoothly again. As long as prices from export crops exceeded the price of rice, a simple calculation was enough to formulate the overall advice for the uplands to intensify production of cash crops at the expense of rice cultivation.

What the colonial officials and agricultural advisers lacked was a notion of upland rice as an anti-commodity. Rice grown on 'dry' uplands had little market potential. However, rice in Indonesia, like in other rice-producing countries, is considered a food of fundamental social importance, expressed in a range of ritual practices around the production of rice and ceremonial events in which rice is an essential item. Such cultural features signify social and economic mechanisms to protect a community from destabilising factors. Connections with the global economy provide a range of benefits but may also become a source of destabilising factors. The anthropologist Michael Dove argued that Dayak in Borneo created a cultural warning system for such factors. In the 1920s a revived folk story becomes a tale of rubber trees eating rice as a reminder not to neglect rice cultivation even though it may make less money than rubber. 'The dream of the rice-eating rubber illuminates Bornean tribes-people's consciousness of the threat posed by overcommitment to global commodity markets.'[46] The anti-commodity helps explain the production practices by which the overcommitment to global markets is safeguarded. Upland rice production next to production of cash crops implies spreading of unpredictable costs over more forms of production.[47] Diversified farming systems thus are more robust against price falls and other economic risks than specialised farming systems. Furthermore, the crops chosen as fallback options are selected based on agronomic opportunities, storage conditions and basic needs. A food crop is an obvious choice but rice is a robust grass that allows for combined cultivation with other crops, stores well and is a tasty food even after longer storage.

A few colonial officials recognised the variety of forms of production and different values attached to the different items produce on *ladings* and other forms of upland farming. The writings of agricultural adviser M.B. Smits, who perceived the Sumatrans to be better farmers

than the plantation managers, reveal an awareness of the benefits of these farming systems.[48] He proposed a variety of improvements to the farming systems, including upland rice. His ideas did not fit with the overall colonial policy, however, which considered rice a strategic commodity in which surplus production was connected to *sawahs*. As long as the surpluses in combination with rice imports did not weigh too heavily on the national balance sheet, investments in improvement of upland rice cultivation were not a priority. The exclusive focus of research for rice improvement on wetland rice continued after decolonisation. The international efforts for rice improvement under the banner of the Green Revolution served the irrigated lowlands with no eye for the nuances and diversity of farmers' practices or the existing scientific knowledge about the realities of smallholder rice farmers.[49] The planners of the International Rice Research Institute (IRRI), created in 1960, toured Asia in the 1950s to explore the rice economies and the kind of scientific input needed. One of them, Richard Bradfield, an agronomist from Cornell University, observed that the agronomists they had talked to:

> [...] feel that upland rice should be replaced with other crops as soon as possible. Corn, for example, will produce twice as much food per acre as upland rice in many places when grown under comparable conditions. From the evidence available it seems likely that [...] the percentage of the crop grown under both the upland conditions and under rain-fed irrigation will gradually decrease.[50]

However, Bradfield himself may not have shared this view, as he tried to convince the Rockefeller and Ford Foundations, the two major donors to IRRI, to invest more money in research on upland farming systems. His request was granted but after a few years research activities on uplands was moved to a new institute, the International Crops Research Institute for the Semi-Arid-Tropics (ICRISAT), created in 1972 in Hyderabad (India).[51] The institutional arrangements out of which the international research centres emerged implied a division of labour that excluded rice from the mandate of ICRISAT as this was IRRI domain. The inferior position of upland rice in the international research centres reflected an overall vision. Rice expert Donald Grist commented in the 1970s that '[d]ryland paddy cultivation continues to be neglected (...) and is frowned upon by governments because of soil erosion danger resulting from shifting cultivation with which dryland paddy has been closely associated'.[52] An assessment of rice from an anti-commodity perspective

makes clear that political and economic motives are additional reasons for governments to frown on upland rice.

Notes

1. P. A. Coclanis (1993) 'Distant thunder: The creation of a world market in rice and the transformations it wrought' *American Historical Review*, 98 (4), 1050–78; R. Barker, R. W. Herdt and B. Rose (1985) *The Rice Economy of Asia* (Washington, DC: Resources for the Future).
2. The Dutch colonial administration learned this lesson over the course of the 19th century: W. R. Hugenholtz (1986) 'Famine and food supply in Java 1830–1914' in C. A. Baily and D. H. A. Kolff (eds), *Two Colonial Empires* (Dordracht: Martinus Nijhoff), pp. 155–88.
3. Terraced fields on slopes at higher altitudes, when inundated, should be categorised as lowland rice. An alternative, equally imperfect distinction is between wetland and dryland fields. Both types of fields can be rainfed or irrigated. Inundation results from the combination of water supply and drainage capacity, natural or man-made. In this chapter the Indonesian terms for wetlands, *sawah*, and uplands, *tegalan*, will be most frequently used: D. H. Grist (1975) *Rice* (London: Longman).
4. F. Bray (1986) *The Rice Economies: Technology and Development in Asian Societies* (Oxford and New York: Blackwell).
5. KITLV (1862) 'Beschrijving van de Rijstkultuur'. Bijdragen tot de Taal-, Land- en Volkenkunde' *Journal of the Humanities and Social Sciences of Southeast Asia*, 8 (1), 42–56.
6. P. Boomgaard (2003), 'In the shadow of rice: Roots and tubers in Indonesian history, 1500–1950' *Agricultural History,* 77 (4), 582–610; R. D. Hill (2004) 'Towards a model of the history of "traditional" agriculture in Southeast Asia' in P. Boomgaard and D. Henley (eds), *Smallholders and Stockbreeders. Histories of Foodcrop and Livestock Farming in Southeast Asia* (Leiden: KITLV Press), pp. 47–67.
7. H. A. Steijn-Parvé (1865) 'Bijdrage tot de Kennis van de Rijstkultuur op het Eiland Java' *Bijdragen tot de taal-, land- en volkenkunde (Journal of the Humanities and Social Sciences of Southeast Asia)*, 5 (1), 399–440.
8. In the eastern parts the traditional source of starch is sago, processed from the soft interior of palms, primarily the species *Metroxylon sagu*. Rice was introduced here much later: R. Ellen (2004) 'The distribution of *Metroxylon sagu* and the historical diffusion of a complex traditional technology' in Boomgaard and Henley (eds), *Smallholders and Stockbreeders,* pp. 69–105; W. M. F. Mansvelt, P. Creutzberg and P. J. van Dooren (1978) *Changing Economy in Indonesia: A Selection of Statistical Source Material from the Early 19th Century up to 1940*, vol. 4: *Rice Prices* (The Hague: Nijhoff).
9. G. Alfani (2010) 'Climate, population and famine in Northern Italy: general tendencies and Malthusian crisis, ca. 1450–1800' *Annales de Démographie Historique*, 2, 23–53.
10. Coclanis, 'Distant thunder'.
11. Anonymous (1879) 'Proeven met Carolina padi genomen in het presidentschap Madras' *Tijdschrift voor Nijverheid en Landbouw*, 24, 263–81.

12. Results from tests with Carolina include crossings with other varieties. See, for example, Departement van Landbouw Nijverheid en Handel (1918) *Jaarboek van het Departement van Landbouw Nijverheid en Handel in Nederlandsch-Indie 1916* (Batavia: Landsdrukkerij), pp. 323–6.
13. J. Breman (1987) *Koelies, planters en koloniale politiek: het arbeidsregime op de grootlandbouwondernemingen aan Sumatra's oostkust in het begin van de twintigste eeuw* (Dordrecht: Foris); K. J. Pelzer (1978) *Planter and Peasant: Colonial Policy and the Agrarian Struggle in East Sumatra 1863–1947* (The Hague: Martinus Nijhoff).
14. A. Kaur (2014) 'Plantation systems, labour regimes and the state in Malaysia, 1900–2012' *Journal of Agrarian Change*, 14 (2), 190–213; Pelzer, *Planter and Peasant*; A. L. Stoler (1985) *Capitalism and Confrontation in Sumatra's Plantation Belt, 1870–1979* (New Haven, CT: Yale University Press).
15. The largest concentrations of Europeans were in the East Coast (2,667 in 1905; 6,270 in 1917) and West Coast (2,923 in 1905; 3,532 in 1917). In most other areas the number of Europeans was lower than 500. The total population on Sumatra for 1917 was about 5 million. The official census figures of the time include warnings that they are based on estimates rather than counting: C. Lulofs and L. van Vuuren (1919) *De Voedselvoorziening van Nederlandsch-Indië* (Weltevreden: Landsdrukkerij), p. 154.
16. Breman, *Koelies, planters*, p. 143.
17. H. Maat (2001) *Science Cultivating Practice: A History of Agricultural Science in the Netherlands and its Colonies, 1863–1986* (Dordrecht and Boston, MA: Kluwer Academic Publishers).
18. The plantation sector bought up large amounts of rice that implied a loss equivalent to half a ton of gold: Lulofs, *Voedselvoorziening*, p. 3.
19. M. Abbenhuis (2001) *The Art of Staying Neutral: The Netherlands in the First World War, 1914–1918* (Amsterdam: Amsterdam University Press); A. Roersch Van der Hoogte and T. Pieters (2014) 'Science in the service of colonial agro-industrialism: The case of cinchona cultivation in the Dutch and British East Indies, 1852–1900' *Studies in History and Philosophy of Biological and Biomedical Sciences*, 47, 12–22.
20. Due to the sudden export prohibition for rice and the effects of the war, hardly any rice from Java was exported to Europe between 1916 and 1922. The disadvantaged European traders protested the ban, arguing that the prohibition was pointless because quality and price differences between exported rice and rice sold on local markets were too great to make them comparable goods: A. C. Mees (1915) 'Verbod van rijstuitvoer uit Nederlandsch-Indië' *Indische Gids*, 37, 457–65; S. Moon (2007) *Technology and Ethical Idealism: A History of Development in the Netherlands East Indies* (Leiden: CNWS Publications); A. Taselaar (1998) *De Nederlandse koloniale lobby: Ondernemers en de Indische politiek, 1914–1940* (Leiden: Research School CNWS, School of Asian, African, and Amerindian Studies); K. van Dijk (2007) *The Netherlands Indies and the Great War 1914–1918* (Leiden: KITLV Press), pp. 530–3.
21. Reports on the experiments are in the publication series of the station: *Mededeelingen van het Deli-Proefstation te Medan*.
22. The Deli company had an estimated share capital of more than 18 million Dutch guilders in 1921. Besides tobacco it owned rubber and palm oil estates: Taselaar, *De koloniale lobby,* p. 70.

23. *Mededeelingen van het Deli-Proefstation te Medan* 16 (1920); T. Volker (1928) *Van oerbosch tot cultuurgebied: Een schets van de beteekenis van de tabak, de andere cultures en de industrie ter oostkust van Sumatra* (Medan: Deli Planters Vereeniging), p. 71.
24. The newspaper *Indische Mercuur* of 21 January 1921 summarises the plans presented by A. A. L. Rutgers, director of the AVROS research station. AVROS stands for *Algemeene Vereniging voor Rubberplanters ter Oostkust van Sumatra* (General Society for Rubber planters on the East coast of Sumatra). The same newspaper mentions on 21 May 1921 that the plan has been cancelled. According to Volker, the low rubber prices right after the war were the reason companies were unwilling to invest in the rice farm: Volker, *Van oerbosch tot cultuurgebied*, p. 71.
25. Soon after the Selatdjaran experiment started, Mulder had sent a team to Borneo to mark out suitable terrain for similar wetland rice schemes that were never implemented: Nationaal Archief, Den Haag, Openbaar Verbaal, inventaris 2496.
26. The most detailed account of the rice scheme is an unpublished report by Van der Stok (1924). In a letter to the minister of colonies the governor asked if the report should be made public. The minister decided against it because 'the interest in the experiment has quickly gone down'.
27. Pelzer, *Planter and Peasant*, p. 119.
28. J. Schneider (1992) *From Upland to Irrigated Rice: The Development of wet-rice Agriculture in Rejang-Musi, Southwest Sumatra* (Bern: Reimer), p. 67.
29. This was a persistent image in most Asian colonies and continued to dominate in national policies after decolonisation: M. R. Dove (1983) 'Theories of swidden agriculture and the political economy of ignorance' *Agro Forestry Systems*, 1, 85–99.
30. Access in the sense of acquiring benefit from land and markets, rather than a fixed share or property: J. Ribot and N. L. Peluso (2003) 'A theory of access' *Rural Sociology*, 68 (2), 153–81.
31. N. L. Peluso (1992) *Rich Forests, Poor People; Resource Control and Resistance in Java* (Berkeley, Los Angeles and Oxford: University of California Press).
32. A. L. van Hasselt (1882) *Volksbeschrijving van Midden-Sumatra* (Leiden: E. J. Brill).
33. F. A. W. Miquel (1862) *Sumatra, Zijne Plantenwereld en hare Voortbrengselen* (Amsterdam: C.G. van der Post), p. ix.
34. W. Van der Schoor (2012) *Zuivere en toegepaste wetenschap in de tropen. Biologisch onderzoek aan particuliere proefstations in Nederlands-Indië, 1870–1940* (Utrecht: PhD dissertation University of Utrecht).
35. W. R. Tromp de Haas (1903) 'Over het branden bij de ontginning' *Teysmannia*, 14, 286–93.
36. A. J. Koens (1916) 'Ladangbouw en zijn invloed op den bouwkruin' in *Nederlands Indisch landbouw SyndicaatVerzameling van verhandelingen omtrent hetgeen bekend is aangaande den grond van Nederlandsch-Indië, en zijn gebruik in den landbouw, ten tijde van het Bodemcongres te Djocjakarta, October 1916* (Buitenzorg: Nederlandsch Indisch Landbouw Syndicaat), p. 209.
37. Smits was stationed on West Sumatra. His appointment is mentioned in the annual report of the Department of Agriculture for 1915. Biographical details

are not included but it is likely that he started his career as an agricultural adviser in the Netherlands.

38. M. B. Smits (1919) *De voedselvoorziening van Nederlandsch-Indië* (Batavia: Vereeniging voor Studie van Koloniaal Maatschappelijke Vraagstukken).
39. A. Luytjes, A. and G. C. W. C. Tergast (1930) 'Bevolkingscultuur van handelsgewassen en rijstvoorziening in de buitengewesten' *Landbouw*, (12), 959–77.
40. Ibid., p. 970.
41. A. A. L. Rutgers (1926) 'De voedselvoorziening van Nederlandsch-Indië' Indiesch genoottschap; vergadering van 12 maart 1926 (The Hague: Martinus Nijhoff), p. 36.
42. Ibid.
43. Pelzer, *Planter and Peasant*, p. 60.
44. Peluso, *Rich Forests, Poor People*, p. 72.
45. The advisory staff consisted of Dutch and locally trained advisers, stationed in districts. In 1919 staff was divided over 14 districts on Java and 12 on outer regions (*buitengewesten*): Departement van Landbouw Nijverheid en Handel in Nederlandsch-Indie (1920) *Jaarboek van het Departement van Landbouw Nijverheid en Handel in Nederlandsch-Indie 1919* (Weltevreden: Boekh, Visser & Co.).
46. M. R. Dove (1996) 'Rice-eating rubber and people-eating governments: Peasant versus state critiques of rubber development in colonial Borneo' *Ethnohistory,* 43 (1), 35.
47. This is contrary to the classic notion of the economies of scale that implies spreading of fixed costs over more units of output.
48. 'These people [planters] are industrialists and their entire enterprise is in fact a single factory. (…) They may be good rubber planters or coffee farmers but about "farm business" they usually know very little.' Smits, *De voedselvoorziening*, p. 100.
49. R. S. Anderson, E. Levy and B. M. Morrison (1991) *Rice Science and Development Politics: Research Strategies and IRRI's Technologies Confront Asian Diversity 1950–1980* (Oxford: Clarendon Press).
50. Cited in Anderson et al., *Rice Science*, p. 44.
51. Ibid., p. 87.
52. Grist, *Rice*, p. 19.

4

Anti-Commodity Counterpoint: Smallholder Diversity and Rural Development on the Cuban Sugar Frontier

Jonathan Curry-Machado

Introduction

It is established historiographical wisdom to say that the spectacular rise of the Cuban sugar industry in the 19th and early 20th centuries brought with it a stifling of an alternative developmental path for Cuban rural society – an 'anti-commodity' vision of 'little Cuba', built not upon the plantation complex, but upon a multitude of diverse agricultural and pastoral practices, based upon a free rural population of smallholders, combined in such a way as to bring economic and social sustainability. But sugar came to dominate the island instead, bringing about the dispossession of vast swathes of the peasantry, marginalising smallholders or pushing them into the growing ranks of a rural proletariat mobilised to service the increasingly massive cane farms and sugar factories. The story would seem to be one of a great tide of sugar sweeping all before it as its frontier voraciously extended itself to swallow up all available land, and pulling all aspects of Cuban life under its influence. But while in many areas this pervasive description holds true, this is only one aspect of the story. The 'little Cuba' of smallholding diversity was not entirely consumed but continued to maintain a presence, albeit beneath the lengthening shadow of cane. While this was clearly the case in parts of the island to which the sugar frontier did not extend, the divide between 'little Cuba' and the plantation complex was not a strictly geographical one. Within those areas where sugar came to hold sway, a counterpoint existed between commodity plantation

and 'anti-commodity' smallholdings, manifesting itself in different ways from district to district: the imbalance between the two resulted in the collapse of the latter in many areas, with what smallholdings survived generally in a subservient and client relationship to the sugar mills; in others, the displacement of smaller farms from prime arable land resulted in their establishment in adjacent districts, with an uneasy relationship established between the two; while in some places, the formation of sugar plantations appears to have occurred in a rather more harmonious relationship with an ongoing, and mutually supporting, coexistence with a more varied rural economy and society.

This chapter explores this dynamic through the case of the region of Remedios, in the centre of Cuba, where sugar came to dominate from the mid-19th century. It can be seen that far from presenting a homogeneous front for the extension of sugar-cane cultivation, the region was made up of four quite distinct 'sub-frontiers'. As sugar plantations became established in each, the result in one was rural stagnation and collapse, in two others the development of a dependent yet antagonistic relationship between plantations and smallholdings, while a fourth shows signs of a harmonious and diverse developmental path suggestive of a mutually beneficial and sustainable outcome. I examine these sub-frontiers in terms of the 'necessary and sufficient conditions for successful frontier-based development' proposed by Barbier: that generated surplus is re-invested in other productive economic activities in the local economy; that these investments result in diversification; and that complementarities and linkages develop 'between the frontier and other sectors of the economy'.[1] The chapter asks why these conditions were apparently fulfilled in one district, and not in the others (Figure 4.1).

However, while Barbier takes a macro-historical approach in which commodity crops and related industries and demographic movements

Figure 4.1 Map of the region of Remedios in Cuba

are the primary focus, by lowering the frame of analysis to the local level it becomes possible to reframe the conditions in terms of the counterpoint between commodity and anti-commodity – between sugar-plantation agriculture developed in the interests of capital, and a more diverse agrarian economy serving local developmental needs.

The chapter uses a combination of documentary and statistical sources,[2] with GIS mapping tools enabling a spatial as well as temporal comparison and analysis to be made alongside the historical narrative. It begins with a description of how the sugar frontier extended through the Remedios region during the 19th century and into the 20th. It becomes clear that the region was made up of four distinctive 'sub-frontiers': Remedios/Caibarién, where agriculture began to be developed in the region; Placetas and Yaguajay, where sugar plantations became firmly established and dominant; and Camajuaní, where a more varied agriculture continued to thrive alongside sugar. The chapter goes on to look at the region as a whole, and the four sub-frontiers, in terms of Barbier's three conditions, reframed in terms of the commodity/anti-commodity counterpoint: firstly, investment in local development; secondly, diversification; and thirdly, complementarities and linkages. The chapter ends by looking at the outcomes, and drawing some general conclusions as to the implications for how we can understand the relationship between commodity and anti-commodity.

The Remedios sugar frontier

Until the 19th century, the district surrounding the town of San Juan de los Remedios remained sparsely populated, and the land largely unexploited, with much of it covered in extensive forests.[3] Although there were farms surrounding the town itself from early on, and along the banks of the principal rivers, elsewhere in the region agriculture was isolated and often short-lived – suffering from poor transport, as well as the traditional restrictions upon land usage. By the late 18th century, however, the area's proximity to Santa Clara, along with the possibility of coastal trade connecting Remedios with the island's western ports (Cárdenas, Matanzas and Havana), encouraged the cultivation of a number of commodity crops. Although a lot of the land in the district was unsuited to agriculture – either because it was excessively rocky, or marshy along the coast – the fertility of the district's land was noted. Nevertheless, the sugar, coffee and tobacco-growing estates were not particularly productive (Table 4.1).[4] However, Remedios was until the early 19th century the most important cacao-producing district in the country, cultivating 85 per cent of Cuba's recorded production of this

Table 4.1 Commodity production in Remedios (1827)[6]

	Number of farms	Production (arrobas)	Average production per farm (arrobas)	National average per farm (arrobas)
Sugar	17	24,245	1,426	8,172
Coffee	75	34,700	463	1,395
Cacao	41	20,150	491	397
Tobacco	107	6,792	63	89

crop. Most of the region's farms, though, either reared livestock or cultivated a wide range of food crops for local consumption, such that although it only occupied 4 per cent of the total land available in 1827, the district's agriculture was producing food roughly at the national per capita average.[5]

This apparent early diversity of agriculture in Remedios, demonstrating a healthy balance between commodity crops for export and those satisfying local needs, had greatly declined by the mid-1840s; and after 1842, cacao cultivation suddenly almost completely collapsed, with most such farms turned over to food crops.[7] This agricultural reduction probably resulted from the strong rise elsewhere of the sugar industry, diverting trading priorities and interests away from areas that fell outside the sugar frontier, as well as the hurricanes of the early 1840s, which had a severe and long-term impact on crops such as coffee, cacao and tobacco.[8]

Sugar, however, did not suffer in this way, and in the 1840s a sugar-plantation frontier opened up in the Remedios area. An increasing number of plantations came to be established. However, although the region is generally treated as being a single frontier, local research suggests that it may be more useful to consider it in terms of four sub-frontiers, each with distinctive characteristics and dynamics: (i) Remedios and Caibarién; (ii) Placetas; (iii) Yaguajay; and (iv) Camajuaní (Figure 4.2). The way in which the commodity-sugar agriculture and industry developed in these differed, as did its impact both upon the anti-commodity of diverse smallholder agriculture, and rural development.

Local landowners based in Remedios perceived the lack of dynamism of local agriculture, and sought to emulate (albeit on a smaller scale) the success of their counterparts in western Cuba, who were already catapulting Cuba to the forefront of the global sugar trade. However, the farms in the immediate vicinity of Remedios itself were dependent upon

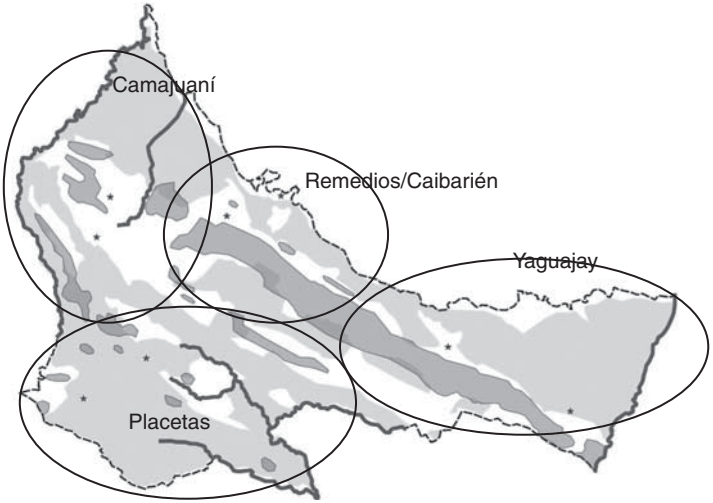


Figure 4.2 Topography, showing main rivers, hilly areas and fertile soils
Source: Reconstructed by author, from variety of local sources and maps.

small streams, many of which became seasonally dry, with drought frequently experienced (in 1844 the drought was so severe that birds could be hunted by just placing a small amount of water in a trap).[9] The presence of large tracts of rocky, hilly land, and the early over-exploitation of such fertile soils as were present, meant that planters increasingly looked elsewhere in the region to establish their plantations. As a result, the district of Remedios suffered long-term stagnation – although neighbouring Caibarién thrived commercially, as the port through which the region's sugar and other products continued to be exported, and goods imported.

Land previously cleared for other crops in a broad arc of land to the west and north of the town of Remedios, through the well watered and fertile lands of the local rivers, began to be turned over to cane. This was furthered by the gradual process of subdivision and enclosure of the haciendas (the traditional basis for land occupation since Spanish colonisation in the 16th century) and enabled the establishment of clear farm boundaries and the concerted clearing of land for planting. The process occurred in a piecemeal fashion, pushed by the local elites' desire to establish sugar plantations, claiming the most fertile tracts of land at the expense of smallholding food producers. With the foundation of the town of Camajuaní (established in the land of the recently broken

up hacienda of that name, at the meeting point of two railway lines and the road from Remedios to the capital of the neighbouring region, Santa Clara) – this district acquired a new urban focus, which further served to isolate Remedios itself. The sub-frontier of Camajuaní benefited from a good combination of topographical features, which served to further a positive relationship between plantation and smallholding, and stimulate local development. With the rivers Sagua la Chica, Charco Hondo and Camajuaní traversing the district, irrigation of land was favoured. But these did not just pass through the large expanses that were suitable for the establishment of cane fields. The heart of the district combined fertile lowlands with rockier highlands, both fed by these water supplies, enabling the coexistence of sugar plantations, tobacco vegas and other farms.

Two new focuses for the spread of sugar also appeared. The district around the village of Guaracabulla, although sparsely populated, was noteworthy for the diversity of its agriculture, with smallholders growing a wide range of food crops as well as coffee, rice, tobacco and bananas, alongside a number of small sugar mills.[10] But by the end of the 1850s, planters from the Matanzas region had already exhausted the soil and expansion possibilities of their existing sugar plantations, and were looking for new lands. Several of them established new estates in the Zaza valley, north of Guaracabulla, where their substantial capital enabled installation of state-of-the-art steam machinery at a time when most sugar mills in Remedios continued to use animal power.[11] The lush lands of Placetas, watered by significant rivers (the Calabazar and Zaza), made this district particularly attractive for the establishment of large-scale sugar plantations. Smallholdings became limited to the southern and western borders – though the fertility of the soil throughout this district, and its proximity and ease of communication to Santa Clara, meant that agriculture continued to thrive. By the 1870s, the district (by then focused on the new, sugar-dominated town of Placetas) had become a counterweight to the older (and soon to be moribund) plantations closer to Remedios itself, which were mainly owned by older Remedios families.

The second new area was on the coastal plain to the east of Remedios, bound in by a range of tall hills. The village of Mayajigua, like Guaracabulla, already had a small amount of diverse agriculture around it.[12] But more newcomer planters saw the potential of this area for extensive planting with cane, and they established large plantations in the area around what became known as Yaguajay. This prospered at Mayajigua's expense, with the latter languishing until sugar spread there

as well.[13] However, a line of hills cut Yaguajay into two distinct sections. To the north, along the coast, large tracts of fertile floodplains (with the river Jatibonico del Norte providing fresh water) became dominated by sugar cane, largely to the exclusion of other land uses. By 1891, this district, 'previously almost forgotten', had become 'one of the richest centres in the province of Santa Clara [...] [Its sugar centrals] surrounded by a true sea of cane'.[14] Meanwhile, smallholders were forced onto less fertile lands on the southern side, creating the 'them-and-us' character of the district, and resulting in it becoming a hotbed of dissent and rebellion.

This became clear after the outbreak of the first war of independence in 1868, which had a marked impact upon the Remedios region. Roving bands of rebels not only passed through the district, but also found shelter for protracted periods in the hills (often receiving logistical support from the local peasantry), launching attacks not just on Spanish troops, but targeting the sugar plantations. Many mills suffered burning and release of their slaves (who were encouraged by the rebels to join them). Nevertheless, the new, strongly capitalised plantations around Placetas (which became a strategic base for the Spanish army) and Yaguajay not only survived but thrived.[15] Meanwhile, the older plantations of Remedios itself all but disappeared, with Camajuaní – and its combination of sugar with more varied agriculture – rising in importance (Figure 4.3).

The immediate post-war years were complicated by the collapse in sugar prices (largely the result of the rise of European beet sugar), generating a crisis in the Cuban sugar industry. This meant a radical change was needed if the industry was to survive – it was difficult for the smaller, vertically integrated mills of the mid-19th century both to recover from the impact of the war, and to compete under the new commercial conditions. This prompted the separation of the industrial side (in the form of fewer but much larger central sugar factories) from the agricultural (with many former mills becoming just cane farms servicing the central factories).[16] The newer mills established in the Placetas and Yaguajay districts were well placed to thrive under this new regime, since many of them had from their inception been pioneers of the 'sugar central' model. Such a shift also seemed necessary due to slave emancipation, and sugar planters were prominent in the promotion of establishing sugar colonies, often with immigrant farmers from the Canary Islands. The 'Zaza' estate in Placetas, and the 'Victoria' and 'Narcisa' in Yaguajay, became national role models for this process – with the former in particular playing a pioneering role in the establishment of railway lines

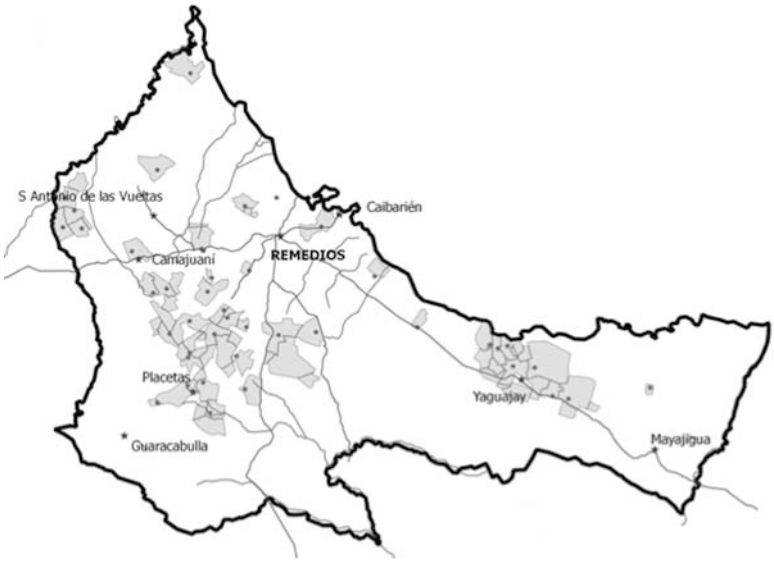


Figure 4.3 Sugar in Remedios, 1878 – showing sugar mills with associated plantation land
Source: Reconstructed by author, from variety of local sources and maps.

designed not only to connect factory to port, but also to enable cane to be brought from ever greater distances to feed its mills. The result was that the two final decades of the 19th century brought a rationalisation and consolidation of the Remedios sugar industry.

By 1882, only 15 of the 63 traditional haciendas of the Remedios region had been divided and enclosed – and these only partially. But pressures mounted on local politicians to complete the process, thereby opening up substantially more land for exploitation. Sugar-planting interests were foremost in such demands,[17] and the local sugar industry was thriving, such that by 1890 it was thought Remedios would become one of the island's principal sugar-producing districts.[18] Despite considerable setbacks during the 1895–98 War of Independence, which resulted in 'ruin and desolation reigning throughout the jurisdiction',[19] the sugar industry recovered quickly, benefiting from an influx of both North American capital and, in places, management. By 1904, many of the region's mills had passed into foreign ownership – often corporations such as the North American Sugar Company. The process of concentration of sugar production begun in the late 19th

century continued, with the number of active sugar factories reduced to just 15,[20] and by the mid-20th century only 12. However, with the introduction of new advances in machinery, total production greatly increased, reaching 182,518 metric tonnes in 1913,[21] and 279,085 metric tonnes by 1929. In the 1930s, increasing global competition in sugar and the imposition of sugar quotas forced local production down to 161,628 metric tonnes by 1936; but the industry remained buoyant in the region, and was able to recover to 223,900 tonnes by the mid-1940s.[22]

Investment in local development

Socially, politically and culturally, Remedios was controlled by the old families of the area, many of whom had been there for generations. But their wealth had been based upon land that by the 19th century was exhausted, while most lacked the means to bring about the strong development of agriculture that the new commercial realities demanded. Their interests had typically been quite diverse, but by the mid-19th century they found themselves at a disadvantage next to the new planter arrivals, who increasingly switched the balance of power away from Remedios and towards the bastions of plantation power: Placetas, Camajuaní and Yaguajay.[23] This resulted in differences in the extent to which profits resulting from the advance of the sugar frontier became used exclusively for sugar-related developments or were extracted from the region, rather than used to bring about more generalised local improvements that would be a benefit to all sectors – not just commodity plantations, but also the 'anti-commodity' local agrarian economy of diverse smallholdings and cottage industries.

The early 19th-century development, based upon a diverse range of crops as well as livestock, resulted in a strong development of culture and education. Public schools were established and funded by the local council, and the region's first theatre founded in 1820. At this time, Remedios was the only significant settlement in the region. As a result, there was a vibrant Sunday and feast-day atmosphere, when many from the surrounding countryside would come into the town for church or socialising. It was also the only market.[24] However, this early boom was short-lived. By 1830, the public hospital was reportedly in a very poor state of repair, and the public schools shut. Even public timekeeping was in disarray, with the breaking of the guardhouse clock that the people of Remedios used to regulate the day, and the marketplace had become overgrown with weeds.[25] Thus immediately prior to the take-off of the plantation economy in Remedios in the 1840s, although there was a

range of different agricultural activities, the region had a very low level of development. The local council reported in 1843 that:

> Many labourers are indigent without having a means of earning their bread [...] The state of the town is sad and in misery [...] The history of this town is unfortunate and miserable [...] With long strides it walks towards its ruin without finding these days a single neighbour capable of resisting the torrent of misfortune suffered.[26]

With the rise of the local sugar industry from the 1840s, the situation gradually seemed to improve. Re-investment of sugar profits does seem to have occurred during the first period of the sugar frontier, when it was still largely locally controlled. While sugar was primarily being planted by members of the old Remedios elite, within families that continued to produce a range of crops on a variety of land, there seems to have been a positive relationship between the spread of sugar and local development. Sugar raised much-needed revenue, and since its producers were at the heart of the local establishment, much of it was re-invested in the area. Symbolic of the times was the installation of a public clock in 1851,[27] while public lighting was introduced in 1846.[28] Roads were improved, schools established, hospitals founded, and social and cultural works carried out; and although Remedios had its application to be named officially a city rejected in 1853, due to its small population and low wealth, by the following year the town was visibly improving, with houses being replaced with better constructions.[29] In 1858, there was a general awareness in Remedios of the need to carry out improvements,[30] and proposals began to be made for the establishment of a good theatre, an extension to the railway, the construction of a new hospital and establishment of a more dignified cemetery, the founding of a savings bank, improvement to education and a decent, clean marketplace.[31] Such developments were made possible largely from sugar revenues entering the public coffers.[32]

By the 1860s, Remedios had established a reputation for being a cultured and educated town. In 1864, the first public library to be established in the island's interior was founded there,[33] and literacy was the fifteenth highest in the country, ahead of such important centres as Santiago de Cuba, Villa Clara, Güines and Cienfuegos.[34] Schools were being funded through local taxes, and in 1864 Camajuaní was the only district where primary education was not available,[35] though by 1873 it had two public schools, as did all other local districts with the exception of Remedios itself, with four.[36] By 1878, the region had seven

educational societies and four newspapers – more than anywhere else in Cuba, with the exception of Havana.[37] Despite the impact of the Ten Years' War (1868–78), the region seemed to be enjoying a significant increase in wealth and both material and intellectual advances that were cause for local pride.[38] In the post-war years public schools were established throughout the region, though the Camajuaní area, previously lagging behind, became greatly favoured, having 12 by 1882 (compared to just four in each of Placetas and Yaguajay). This in itself was a sign of the vibrancy of that particular sub-frontier, with its healthy combination of sugar plantations and diverse smallholdings, resulting in a rural society and economy not dependent upon a single crop but enabling the development of several communities dotted around the district.

But this situation changed in the late 19th century due to a public funding crisis despite the buoyancy of the sugar industry. It would seem that fewer resources were being re-invested back into local society. For example, a report on Caibarién in 1894 complained that, although the town's population had almost doubled since 1881, no new school had been opened;[39] and the problem was compounded in subsequent years by the independence war: by the end of 1897, teachers throughout the region had gone up to 19 months without payment.[40] The Remedios Public Library, of which the town had been so proud, had already in 1878 been relegated to a back room of the Casino Español, and was rarely visited.

Another negative impact of the rise of the sugar-plantation economy could be seen in the decline in local cottage industries. For example, previously women in particular had been employed in the fabrication of straw hats, but increasingly such goods were imported into the region rather than made there. The same was the case with a range of other domestic products – soap, candles, woven goods.[41] Such small-scale industries had helped sustain a large number of poorer families, who became much more dependent upon seasonal plantation work – all the more so as land prices rose, making it harder to establish smallholdings.[42] Even when local industry did continue, there was a marked tendency towards women being left without employment, as men became more attracted to such activities rather than farming the land. In 1880, local commentator Teodosio Montalván wrote:

> Today there are no women making soap because from outside comes that of *estrella* and *calabaza*, which although terrible and leaving a disagreeable smell in the clothes, is much used. There are none who do laundry, and the men do the ironing. There are none making

> candles because there are candle shops where only men work. There are none rolling tobacco because the tobacco workers denounce them for not paying taxes. They no longer make starch, nor sausages or black puddings, nor wash out the chittlings because we now have male sausage-makers etc., and they don't sew for money because not only do the male tailors absorb all the trade, but the poor women have no machines and no one wants to pay much for their sewing. This is the situation today for poor women in this city, where in other times abundance reigned.

Even men were finding it hard to find employment in Remedios in 1880, with the result that 'the poor do not eat meat because they do not have the means to buy it, and the beggars walk from house to house begging'.[43]

One reason for such a change was the establishment around what would become Placetas of newer, larger sugar plantations in the 1850s and 1860s, with many of these owned by planters from outside the area. This resulted in a shift away from the symbiosis with local developmental needs that had been associated with the Remedios-based planters. Many of the new planters felt no need to support the town of Remedios, or its inhabitants – and since most of the planting of cane was happening at some distance from the town, it fell into stagnation, its size remaining largely unchanged over the course of the 19th century. The town council of Remedios became chronically short of money (with a budget deficit of $36,499 in 1868, rising to $80,000 in 1870, greatly aggravated by the war),[44] and was unable to maintain all the schools that had previously been opened. They also did not have enough money to pay for the hospital and police. A desperate plea was put out to the mill owners to make a voluntary donation to the public funds, but few responded positively. The long-term result was the stagnation and decline of the town and its immediate environs – although it remained officially the political centre of the jurisdiction. But even this advantage was removed from Remedios in 1879, when Yaguajay, Placetas and Camajuaní were granted permission to establish their own local councils. To this day, Remedios has never recovered from this shift.

In comparison, though, the new planters showed much more vigour in supporting the development of new towns, positioned to service the needs of their plantations. In this way the towns of Placetas and Camajuaní, and to a lesser extent Yaguajay, as well as Caibarién (which experienced a protracted boom, as the port from which the sugar of all the plantations in the area was exported) flourished, coming to surpass

Remedios in terms of development, economic dynamism and size. These were towns that were more conveniently placed as markets for most of the largest plantations in the area. But from the 1880s, as smaller plantations were merged to form massive central sugar factories – often providing within their own grounds for all the economic and social needs of their workers – Placetas and Yaguajay came to find themselves in a situation of dependence upon the sugar industry, while at the same time suffering a shortage of investment in urban development. The sugar centrals themselves became the focus for developmental advances, with the largest becoming virtually self-contained populations providing all the facilities that their workforce required.[45] For example, the Central Narcisa, in Yaguajay, by 1891 had more than 5,000 people living there.[46] Placetas and Yaguajay, although with growing populations, showed all the signs of urban centres suffering from existing in a shadow of dependency, with poor facilities and buildings, and few resources.[47]

Nevertheless, the spreading sugar frontier did not just turn land over to cane, but resulted in many small settlements springing up throughout the region.[48] This was particularly the case in the Camajuaní sub-frontier – where a more diverse mix of agriculture and industry favoured the flourishing of rural society beyond the confines of the sugar industry. The local press in 1880 commented on the district's 'considerable trade, and wealthy villages gradually growing, and walking on the path of true progress'.[49] They were particularly favoured by the growing commercial importance of tobacco, much of which was grown there.

This was partly enabled by the influx of immigrants from the Canary Islands in the 1880s who arrived through schemes established by some of the prominent sugar planters in order to bring more potential workers into the region. They were allotted land, with the intention of tying them to the locality of sugar mills – both to provide seasonal labour as required (removing the dependency on Chinese indentured labourers, brought in as an initial replacement for African slaves), and to farm their lands with sugar cane as needed.[50] However, once arrived they established a more informal route in, with many others arriving and settling in those places, in particular in the Camajuaní district, where they could obtain land for growing tobacco and food crops.[51] The Placetas district was also favoured, and it was felt at the time that the flourishing state of these districts was in part due to its colonisation.[52]

Diversification

As occurred elsewhere in Cuba, there was an increase in other kinds of farms alongside the sugar plantations – in particular food-producing

smallholdings. It might be thought that these spread on the coat-tails of the larger sugar plantations – which had the manpower, in the form of slave labourers, and capital available not only to secure ownership or usufruct over the choicest pieces of land, but also to expend the energy needed to clear and plough that land so that it would be ready for agricultural use. Such plantations had substantial food requirements, so it would seem natural that they would be accompanied by the establishment of food-cultivating smallholdings.

However, it would seem that in fact the pioneering role in the Remedios district was carried out by other crops. The initial spread of farming away from the immediate environs of the town appears to have been very diverse, with sugar playing at best a minor role. Not just food crops, but tobacco, cacao (with chocolate forming an important part of the local diet prior to the rise of sugar plantations) and coffee (the cultivation of which was actively encouraged by the local council in the late 18th and early 19th centuries)[53] played a more important part. But this initial frontier of diverse agriculture quickly succumbed to sugar cane once it began to properly take off in the region. Suggesting a somewhat parasitic behaviour, planters with greater financial clout were able to take advantage of the clearing and land improvements already carried out by smallholders, beginning a pattern of exploitation and marginalisation that was set to continue. What seems to have occurred in Remedios is not dissimilar to what had happened in the province of Havana a century earlier, when tobacco cultivators were pushed westwards into Pinar del Río by sugar planters jealous of their fertile and well-prepared land.[54]

As the sugar frontier spread through the Remedios district and took firm hold of it, sugar and its planters became increasingly dominant. A process was begun through which this one crop came to lord it over not only all other forms of agricultural pursuit, but also local trade, and local society and politics. The shift was not felt immediately, since many of the first sugar planters were themselves members of the long-established local elite. However, with the incursion of more planters from outside during the mid-19th century, it was these newcomers who took charge of the district's affairs and destiny – even prompting some members of the oldest Remedios families into acts of rebellion.

The four sub-frontiers reveal quite different processes of interaction between the sugar frontier and smallholder diversity (see Figure 4.4). Firstly, in Remedios itself the spread of sugar coincided with, and possibly itself stimulated, the decline and collapse of a more varied agriculture. Cacao and coffee ceased to be important products of the

Figure 4.4 Approximate areas of smallholder diversity in relation to areas of cane cultivation
Source: Reconstructed by author, from variety of local sources and maps.

area, whereas before they had been of greater importance than sugar. Likewise food crops seem to have suffered. Sugar expanded into, and supplanted, more diverse agricultural lands. As a result, when sugar eventually moved away from the immediate environs and this sub-frontier effectively collapsed, there was little to replace it. Much of the land eventually became planted to cane (though much also was left to be invaded by alien plants, such as the notorious *marabú*) – not for Remedios itself, but for the sugar centrals elsewhere, with the produce transported by train.

Placetas was established amidst newly founded sugar plantations, which largely supplanted the cattle ranching that had previously taken place in the area. Alongside the sugar plantations that spread through the fertile plains, planters sponsored the influx of smallholder colonists (in particular from the Canary Islands), who were provided with the possibility of establishing their own plots of land in the hillier parts that were not suitable for cane. This was a conscious policy, with the intention of boosting the local population, thereby ensuring that the

plantations – following the end of slavery – would have access to seasonal labour, as well as a certain amount of locally produced food. However, such diversification was relatively minor compared to the scale of sugar production, and most of the best land continued to be devoted to cane. Smallholdings were forced to occupy the more marginal neighbouring areas, furthering a sense of 'them and us'. This resulted in ongoing antagonisms between smallholders and plantations, which fed the growing tendency throughout the 19th century towards rural banditry – a phenomenon that plagued the region, with kidnappings and cane burnings, well into the 20th century. Although significant plantings of maize could be found here alongside cane (as also in Yaguajay), this was itself directly related to the plantation economy, and farmed on a large scale to help feed the sugar-dependent population.[55] The excessive use of cornmeal in the diet on the sugar plantations, and the absence of a healthier range of vegetables, resulted in constant health and nutrition problems.[56]

Yaguajay was founded by the planters who moved into the area and quickly planted most of the coastal floodplain with cane – a process that continued into the 20th century. Although there was some planting of other crops, this seems to have been largely limited to large-scale cultivation of maize as a staple crop to service the plantations. However, the valley on the other side of the strip of hills running parallel to the coast was largely outside the easy reach of the plantations, and seems to have been an area in which displaced smallholders – or those arriving and seeking land to farm – established themselves, planting a mix of food crops and tobacco. The road across the hills gave them access to the plantations (for seasonal work) and Yaguajay (for the market), while the hills themselves proffered them a certain degree of protection and independence from the dominance of the sugar plantations. This could be seen during the independence wars, when this became an area in which rebel bands could take shelter and find local support for their revolutionary aims. An uneasy, but ultimately mutually dependent, relationship was established between the coastal sugar zone and the smallholders from the other side of the hills.

Camajuaní lies on the principal road connecting Remedios to Santa Clara. It also sits conveniently between the fertile sugar lands to the south, the lands bordering the rivers Sagua la Chica and Camajuaní to the north, and the hilly area around the town of San Antonio de las Vueltas. Unlike the other sub-frontiers, here there seems to have been a more dynamic relationship between the wealth generated by sugar and the continuation and stimulation of a more diverse agriculture. This was

helped by the presence of different kinds of land, many of which simply were not suitable for sugar cane; but the area also succeeded in developing a particularly thriving and diverse range of agricultural products. Camajuaní itself developed strongly, primarily as a result of sugar profits, which seem to have stimulated not just ongoing agricultural, but also industrial, diversity. The early years of the 20th century offer several examples of agriculture-based industries establishing themselves in Camajuaní and contributing to the area's wealth. The general strength of local rural society can also be seen in the spread around the area of several smaller villages, accompanied by trading as well as the establishment of schooling facilities. It is perhaps significant that whereas both Placetas and Yaguajay were positioned firmly within the areas of cane cultivation, Camajuaní was sited in such a way that the town itself was surrounded by a mix of land uses, including but far from limited to sugar cane. The sugar estates of Camajuaní were not as large as those of Placetas and Yaguajay, and as a result made less demands on local labour, thereby enabling these two local commodity crops (sugar and tobacco) to coexist in a non-competitive way that also had a positive impact on the continuing cultivation of a wide range of food crops. The district was described in 1879 as being 'rich [...] with flourishing agriculture'.[57]

One way in which the level of diversification can be judged is in the availability of food crops in the local market. As the 19th century progressed the region of Remedios became increasingly unable to meet the food requirements of the local population, with growing shortfalls in basic foodstuffs available in the official market (see Table 4.2). Although overall cultivation of key staples (such as rice, maize, roots and bananas) increased, they could not keep pace with a growing population increasingly tied to the sugar industry, rather than producing food crops for local consumption. This can be seen strikingly in the plummeting availability of vegetables and fruit. Average food production per smallholding in Remedios steadily fell through the period, from 1,803 *arrobas* in 1827, to 1,130 in 1846, and 1,059 in 1862. Indeed, it was noted locally that many smallholdings became increasingly abandoned, or poorly cultivated, as a result of rising rents and the growing domination of the sugar industry.[58] The press commented that many able-bodied men seemed to prefer to engage in the resale of fruit and vegetables from Villa Clara, rather than cultivating land themselves.[59] By 1857, the shortage of staple foods was being commented on locally – along with complaints about the poor quality of meat in the Remedios market.[60] It became commonplace to complain about the laziness of local peasants, making unfavourable comparisons between them and the peasants in other

Table 4.2 Availability of food staples in local food market, Remedios

	1827		1846		1862	
	Local availability	**Estimated surplus/ (shortfall)**	**Local availability**	**Estimated surplus/ (shortfall)**	**Local availability**	**Estimated surplus/ (shortfall)**
Rice	8,910 @	(13,000 @)	13,567 @	(22,000 @)	52,329 @	(79,000 @)
Cassava	510 cab	450 cab	315 cab	180 cab		
Maize	198,000 @	79,000 @	53,544 @	(23,500 @)	526,220 @	(95,000 @)
Root vegetables	42,500 cargas	(18,000 cargas)	37,711 cargas	(3,500 cargas)	84,606 cargas	(60,000 cargas)
Bananas			28,074 cargas	(3,000 cargas)	47,667 cargas	(41,000 cargas)
Beans	3,465 @	(13,000 @)	3,409 @	(17,000 @)	6,157 @	(62,000 @)
Vegetables	8,400 cargas	2,000 cargas	1,359 cargas	(300 cargas)	537 cargas	(3,400 cargas)
Onions & garlic	4,290 @	3,800 @	1,314 @	950 @		
Fruit			919 cargas	(2,700 cargas)		

Note: Estimated surplus/shortfall based on calculations from national availability (according to censuses), taking into account regional differences in principal carbohydrate staple, rice import figures, and estimated individual consumption of beans (36 lbs/year). Assumptions are also made on probable rural self-sufficiency in fruit, vegetables, onions and garlic. 1827 figures for viandas include bananas; and for vegetables include fruits. 1862 – no separate figures for onions and garlic, and fruit.
@ = arroba (25 lbs); cab = caballo (200 lbs); carga = 200 lbs.
Source: Author's calculations from agricultural census data.

places – in particular Villa Clara, which displayed much more of an active smallholding culture.[61]

Attempts were made to encourage more local food production, particularly of crops such as bananas that would readily grow with minimum attention, and which could help satisfy local food needs – yet few were bothering to pursue it.[62] Why, it was asked, were food crops not interspersed with cane?[63] At the same time, encouragement was given to return to alternative commodity crops such as coffee, previously so important in the region.[64] But against the apparently irresistible spread of sugar, such calls appeared to be in vain – with only tobacco succeeding in holding its own. Cacao, once so important for the local economy, was still very abundant through the region in the 1890s – but it was wild, and rarely exploited.[65] Meanwhile, only a very few bothered to plant coffee, and then only producing sufficient for their own domestic consumption or for small-scale local sale.[66]

Though fresh food might have become scarcer in the local food market, with the extension of smallholdings throughout the region – in some places prominent, as in Camajuaní, in others in the shadow of the cane plantations – many of the local requirements were satisfied in an informal way. Crops were either grown for domestic consumption or traded directly within the neighbourhood, thereby not entering into official figures – an alternative, anti-commodity local economy to that being imposed by the plantations. That this was so could be seen during the independence wars, when there was considerable displacement of rural communities. While in August 1895 it was noted that there was abundance throughout the region of food crops, by February 1896 hunger was beginning to be felt, in particular among those who had been forced to move into the towns, leaving behind their land.[67] With so many more mouths to feed in the urban centres, and few left tending to crops, much conflict resulted from the shortages. Pressures were put on the Spanish military authorities to allow the establishment of cultivation zones, along the railways and in the vicinity of forts, in order to alleviate the pressure. At times, people would be permitted to leave the towns in order to collect vegetables, though only following considerable popular pressure. As soon as the conflict ended, and farmers could return to their land, food returned to its pre-war abundance.[68]

The conversion of sugar plantations to the central model may have increased the efficiency of the industrial side, but it forced a distortion of the agricultural. Whereas before, each sugar mill had its own land on which cane was grown, now each sugar factory needed to secure a sufficient supply of the crop from cane farms. This resulted on the one hand in pressures on existing farmers to switch their crop to sugarcane,

and on the other encouraged non-farmers to purchase land in order to seek to share in the apparent windfall that the sugar industry was bringing – merchants, lawyers, doctors and other professionals from the town invested in the boom.[69] A large swathe of land through the Remedios region, in particular towards Placetas, by 1890 had been converted to cane. Farmers who previously had been simple smallholders producing food crops that they sold to the plantations and towns, now became cane growers. While this offered the possibility of an individual increase in income and improved conditions, it did much to erode the alternative to sugar.[70] In 1889, the conversion of the Dolores coffee farm, near Buenavista, was described: The aromatic coffee bushes and orange trees spread symmetrically in straight lines like streets, have been succeeded by an immense green sea of luxuriant cane fields.[71]

This was in contrast to the circumstances in the Camajuaní district, where smaller sugar plantations continued to combine sugar with tobacco, maize and other food crops, and neighbouring farms continued to thrive with a similar diversity.[72]

By the early 20th century, it was evident that 'the large centrals are strangling small farms': The peasants live in a primitive state, in palm-roofed huts, with dirt floors and without sanitation, and poorly provisioned in every respect. It is frequent among them to find anaemia and intestinal parasites.[73]

With land prices rocketing as foreign investors (in particular North Americans) sought to enter into the sugar industry in the region, many smallholders were forced from their land, or pushed into scratching an existence from less fertile terrain where the greatly inflated rents were lower. For example, the 'Loma de la Cruz' farm, near Placetas, which had been purchased in 1880 for $700, in 1920 went for $22,000.[74] The dependence on sugar in the 20th century made the whole region very susceptible to fluctuations in the price of sugar – with booms bringing a further dominance of this single commodity, while crashes brought considerable hardship. But while Remedios had already stagnated through its marginalisation, Placetas and Yaguajay felt the full force of such vagaries of the global sugar market. However, Camajuaní, with its more diverse agriculture and economy, was better placed to continue to thrive during such difficult times, the district's producers more capable of switching between crops according to the market and local need.

Complementarities and linkages

The sugar industry brought a particularly important development to the Remedios district – as it did to other parts of the island: the railways. It was this more than anything else that succeeded in bringing

Remedios (which had long suffered from atrocious roads and poor communications) into close contact with the rest of the island. The prime movers in the founding of the railways were the owners of the largest of the sugar plantations. The regional railway network became quite extensive, with major lines connecting with the rest of the island, along with a myriad of small branch lines designed specifically with the needs of the sugar industry in mind: enabling cane to be brought quickly to the factories, and sugar quickly to the ports.

The spread of cane plantations and sugar mills, as well as the establishment of railways, also affected local trade. Whereas prior to the spread through the district of the sugar frontier there appears to have been a quite diverse local market system, far from stimulating this, the sugar plantations increasingly introduced a trading logic based on export of commodity crops and import of basic necessities over the course of the 19th century. In 1861, the construction of a railway connecting Remedios with Sancti Spiritus was promoted, in part with the argument that while cultivation of bananas and other such crops was in quite an abandoned state in Remedios, Sancti Spiritus had an abundance. The railway would bring in all that the local economy and agriculture was failing to produce – and the sugar industry would provide the means to do so.[75]

The railways may have been established primarily with the interests of the sugar industry in mind, especially the need to transport the sugar quickly for shipping. But at the same time they provided a channel that also enabled the establishment of more smallholdings, in areas previously out of reach. Wherever a road extended, land became available for planting with crops, and not exclusively cane. The establishment of the narrow gauge railway between Caibarién and Placetas opened up an extensive cultivation zone – though the initially diverse range of crops cultivated soon became dominated by cane to feed the same sugar factories whose produce was being exported along the railway.[76]

While railways were providing a rapid and generally reliable route in and out of the region for agricultural produce and other goods, the local road system – upon which smallholding farmers depended – remained in a deplorable state. For example, in 1891 the Guajabana road, 'artery down which the town of Caibarién is supplied with the most necessary of produce', proved to be so impassable that many farmers had stopped attempting to transport their crops to the market.[77]

Although the transport network, exemplified by the railways, seemed to interconnect the four sub-regions of the district, linking them to the world both by land and (through Caibarién) by sea, there were marked

differences between them in how this infrastructure was established and impacted. While Caibarién thrived, Remedios continued to languish – becoming little more than a marginalised passing point. Both Placetas and Yaguajay had extensive rail lines, but these were primarily installed for the service of the sugar industry – both for bringing crops to the factories, and for exporting the finished product. In the long term, the railways served to draw ever larger tracts of land into cane cultivation, and reduced the possibility for alternatives. But Camajuaní, and its related communities, found that the crossing of two major lines (from the coast to inland, and along the length of the island) furthered, rather than hindered, the diverse agrarian economy that had developed due to the confluence of positive factors. Tobacco and food crops could share a transport network that did not locally manifest itself as being specifically dominated by sugar, in the way that it was in Placetas and Yaguajay. At the same time, the frequency of regular passenger services not only to other towns in the interior, but crucially west to Matanzas and ultimately Havana, contributed to the development of a more cosmopolitan culture. Both Camajuaní and Caibarién – the two towns in the region most connected with the outside world, and with the most positive form of development – became nationally renowned in the 20th century for having given birth to celebrated figures of popular and intellectual culture.

Contrapuntal consequences

In 1880, a local newspaper expressed the rather optimistic opinion that:

> the age of large properties has passed. We are drawing near to the end of these, and it is right that we should think that their subdivision will come, along with small cultivations; and that not everyone need dedicate themselves to cane and tobacco.[78]

This ongoing counterpoint between the growing dominance of a single commodity crop and the continuation of a more varied, locally sensitive and responsive agrarian economy and society, was one that dominated the Remedios region. While large parts succumbed to sugar, those districts that maintained a diverse and potentially more sustainable approach also proved to be the breeding ground for violent manifestations of an anti-commodity clash.

Throughout the 19th and into the 20th centuries, banditry was prevalent in the region. By the 1840s it had become an ever present nocturnal threat in the countryside, and it was the area north of Camajuaní, in

particular the hills of Vueltas, that was the main base from which such assaults took place,[79] though other, more marginalised areas likewise provided a home for these rural discontents. Fires would often be set in cane fields, and planters kidnapped for ransom. What in peacetime took the form of criminal activity, during the independence wars was readily converted to outright rebellion against Spain and the wealthy interests that defended the continuing colonial status. Both to the east, in the hills above Yaguajay and Mayajigua, and to the west, near Vueltas, rebel bands operated – seeking refuge and launching periodic attacks on the lowland estates and towns. In the Ten Years' War, this was exacerbated by the Spanish insistence on summarily arresting locals thought to hold independence views – many of whom were from the most distinguished families of local society who were also feeling the effect of a loss of local power, with the sugar industry growing mainly at the behest of newcomers. Spanish atrocities, such as the public stripping and beating of women suspected of assisting the rebels in Güeiba in March 1869, further prompted locals to side with the uprising, one of whose principal targets continued to be the sugar mills and plantations. Similar occurrences took place during the 1895–98 war, in which it is striking that the district that suffered most from deaths caused by disease was that of Camajuaní – where between one-seventh and one-quarter of the population died as a result of epidemics in 1897, compared to less than one-tenth in the other districts of the region.

Some general conclusions may be drawn from this detailed local case study, as to the way in which the sugar-plantation frontier impacted upon rural society. Clearly it is not sufficient to treat this frontier in a homogeneous way. Even within a single, relatively small region, different 'sub-frontiers' displayed quite marked differences to one another in terms of the dynamic established between plantations and smallholdings – corrosive in some, antagonistic in others, and yet mutually supporting elsewhere. What factors might lead to such differences?

Remedios itself stands as a shining example of a failed frontier, its long-term stagnation and decay very evident right up to the present time. The failure to diversify the local economy at the time of the booming sugar frontier in the mid-19th century resulted in the sugar frontier having a long-term toxic effect on the area, such that even the boom taking place in the neighbouring districts did not really filter through to Remedios itself. Caibarién, on the other hand, thrived. Although the area only had (by the end of the 19th century) a single sugar central, most sugar produced in the region was exported through

the port, leading to an industrial diversification of the local economy. More important still, the development of port infrastructure, initially for sugar, came to be used also for the region's tobacco exports, as well as for other imports and exports. While Caibarién thrived with a sugar-sponsored diversity, Placetas – although large – took on many of the characteristics of a town and district thoroughly dependent upon a single crop. Such diversified smallholdings as existed were relatively minor, and the pre-existing cattle-ranching became stifled both by the spreading cane and the break up of the old haciendas, and by the increasing import to Cuba of cheap meat from South America. Yaguajay, like Placetas, developed as a sugar-dependent town, but with the added disadvantage of not being on the way to anywhere important. So long as sugar boomed, Yaguajay to a certain extent might benefit. But since there had been no immediate attempt to diversify the local economy, the area languished during hard times and showed little sign of long-term strength and vibrancy. But Camajuaní does seem to provide an example of a dynamic inter-relationship between the sugar frontier and a more diverse economy. The sugar centrals of this area may not have been as large as those around Placetas and Yaguajay, but they seem to have been able to maintain a much healthier relationship with a much broader-based rural society and agrarian economy. It is perhaps noteworthy that Camajuaní spawned several important figures of popular Cuban culture in the 20th century.

Where the introduction of a commodity crop such as sugar is instigated by local actors, it is likely to be done with greater sensitivity to the more general needs of the district. Social ties between plantation owners and smallholders are likely to remain strong (albeit defined in hierarchical terms), and the development of the sugar industry may take place alongside the spread of more diverse agricultural pursuits. However, when the plantation owners see themselves as operating not on a local, but a regional or global stage – and particularly if they come into the area from outside, specifically with the intention of establishing plantations – then this relationship breaks down. Rural development may occur, but only insofar as it supports the objectives of the sugar industry. With this industry now driven by the need to compete at a national or global level (rather than contribute to a locally defined economy), the plantation lays claim to ever larger swathes of land. Needing to ensure responsiveness to market demand, land becomes planted to cane even if there is no intention to harvest it all, or is left fallow in preparation. As a result, smallholding farmers are either forced to grow cane, or pushed off the land to make way for large cane farms. This leaves little rural

dynamism to respond positively to the eventual moving away of the sugar frontier.

Where production of this single commodity crop occurs in an intensive and concentrated way, dominating a large swathe of the land and with minimal concern for supporting a more diverse range of agricultural pursuits (beyond satisfying the plantation's immediate needs), the rural poor are either forced into employment on the plantations, move to the towns or cities, or if they wish to continue farming find themselves occupying marginal lands around the edges of the plantation zone that has so dominated the local infrastructure. This last option may result in the persistence of smallholding districts, but in an antagonistic relationship with the plantations. However, if local conditions are such that the sugar plantations may thrive not by displacing other activities, but by existing alongside them, then it may be that plantation and agricultural diversity can not only coexist, but mutually support one another. Where the commodity plantation brings revenue into the locality, and this continues to be employed for a diverse range of local concerns – economic, social, cultural, industrial – then something approximating such a vision as that projected by the proponents of 'little Cuba' might be achieved.

Notes

1. E. Barbier (2011) *Scarcity and Frontiers* (Cambridge: Cambridge University Press).
2. Of particular importance has been the multi-volume Martínez Fortún, José Andrés. *Anales y Efemérides de San Juan de los Remedios y su jurisdicción*. Tomo 3 al 9. Imprenta Pérez. Sierra y Compostela. La Habana., compiled and published over several decades by José A. Martínez-Fortún y Foyo – a local doctor and amateur historian (henceforth Fortun). Various maps of the locality were also used to reconstruct the approximate location and boundaries of sugar plantations through time, and to identify areas of smallholder agriculture.
3. See H. Venegas (1980) 'Consideraciones en torno a la economía remediana colonial' *Islas*, 67, 11–79.
4. J. Curry-Machado (2013) 'In cane's shadow: Commodity plantations and the local agrarian economy on Cuba's mid-nineteenth Century sugar frontier', in J. Curry-Machado (ed.), *Global Histories, Imperial Commodities, Local Interactions* (London: Palgrave Macmillan).
5. See Fortun, Anales y Efemérides de San Juan, vol. 1, pp. 139–43.
6. J. Zaragoza (1829) 'Cuadro estadistico de la siempre fiel Isla de Cuba, correspondiente al año de 1827…', Havana: Oficina de las viudas de Arazoza y Soler, impresoras del Gobierno y Capitanía general por S. M.
7. *El Correo de Trinidad*, 4 December 1842.
8. L. A. Pérez Jr (2001) *Winds of Change* (Chapel Hill: University of North Carolina Press).

9. Fortun, *Anales,* vol. 1, p. 210.
10. Fortun, *Anales,* vol. 4, p. 90.
11. Fortun, *Anales,* vol. 2, p. 144.
12. Fortun, *Anales,* vol. 1, p. 150.
13. Fortun, *Anales,* vol. 6, pp. 105–6.
14. *El Criterio Popular*, 4 February 1891.
15. Fortun, *Anales,* vol. 3, p. 123.
16. Fé Iglesias (1998) *De ingenio al central* (Rio Piedras: Editorial de la Universidad de Puerto Rico).
17. *El Criterio Popular*, 21 October 1880.
18. *El Orden*, 12 February 1890.
19. Fortun, *Anales,* vol. 4, p. 232.
20. *Boletin Oficial de la Secretaría de Agricultura, Industria y Comercio*, 1, no. 1, 20 May 1906.
21. *Boletin de Agricultura*, no. 15, 1913, p. 282.
22. A. B. Gilmore (ed.), *Manual Azucarero de Cuba* (Havana: Gilmore, 1946).
23. Fortun, *Anales,* vol. 3, p. 253.
24. Fortun, *Anales,* vol. 1, p. 135.
25. Ibid., pp. 159–64.
26. Cabildo 4 September 1843. Report to Captain General on state of Remedios, in Fortun, *Anales,* vol. 1, p. 201.
27. Fortun, *Anales,* vol. 2, p. 19.
28. Fortun, *Anales,* vol. 1, p. 216.
29. Fortun, *Anales,* vol. 2, pp. 41, 46.
30. *Boletin de Remedios*, 29 April 1859.
31. Fortun, *Anales,* vol. 2, p. 82.
32. Ibid., p. 93.
33. Ibid., p. 181.
34. Data from J. L. Albernas, in Fortun, *Anales,* vol. 2, pp. 186–7.
35. Fortun, *Anales,* vol. 2, p. 194.
36. Cabildo 12 December 1873, in Fortun, *Anales,* vol. 3, p. 89.
37. Fortun, *Anales,* vol. 2, p. 190.
38. T. Montalván, 'Centro de Recreo', 11 July 1880, in Fortun, *Anales,* vol. 3, pp. 246–7.
39. September 1894, José Herrero, in a report to the Junta de Educación de Caibarién.
40. Fortun, *Anales,* vol. 4, p. 319.
41. Fortun, *Anales,* vol. 1, p. 135; T. Montalván, 'Centro de Recreo', 6 June 1880, in Fortun, *Anales,* vol. 3, p. 241.
42. *Boletin de Remedios*, 27 August 1860.
43. Montalván, 'Centro de Recreo', 6 June 1880, pp. 242–3.
44. Cabildo Extraordinario 26 September 1868, in Fortun, *Anales,* vol. 3, p. 10.
45. *El Criterio Popular*, 17 September 1889.
46. Ibid., 4 February 1891.
47. Ibid., 4 May 1880.
48. Ibid., 10 August 1889.
49. Ibid., 10 July 1880.
50. Revista de Agricultura del Círculo de Hacendados de la Isla, 1883, in Fortun, *Anales,* vol. 3, pp. 281–2); *El Criterio Popular*, 12 May 1883.

51. *La Constitución*, 8 January 1883.
52. *La Idea*, 17 July 1889.
53. Fortun, *Anales,* vol. 1, p. 135. Anon., Historia local de Remedios. Mimeo, Archivo Municipal de Remedios, p. 33.
54. V. Sanz Rozalén (2005) 'El estanco del tabaco y la expansión azucarera a comienzos del siglo XIX' *Ibero-Americana Pragenisa – Supplementum*, 15, pp. 249–59; V. Sanz Rozalén (2007) 'El discurso de la apropriacion y la politica colonial: disputas por la tierra en Cuba a comienzos del siglo XIX' *Ibero-Americana Pragensia – Supplementum*, 19, pp. 223–9.
55. *Boletín oficial de la Secretaria de Agricultura, Industria y Comercio*, Vols 1–18, 1906–1915.
56. *Boletin de Remedios*, 10 October 1860.
57. *El Casino de Artesanos*, 1 January 1879.
58. Fortun, *Anales,* vol. 2, p. 38.
59. *Boletin de Remedios*, 22 August 1861.
60. Fortun, *Anales,* vol. 2, pp. 72, 75.
61. *Boletin de Remedios*, 30 August 1861.
62. Ibid., 8 June 1861.
63. Ibid., 8 October 1860.
64. *El Porvenir de Remedios*, 9 September 1864.
65. J. Bautista Jimenez (1891) 'Aventuras de un Mayoral', cited in *El Criterio Popular*, 4 September.
66. *El Criterio Popular*, 9 July 1891.
67. Fortun, *Anales,* vol. 4, pp. 200, 228.
68. Ibid., pp. 336–8.
69. *El Criterio Popular*, 14 September 1889.
70. Ibid., 5 September 1890.
71. Ibid., 17 September 1889.
72. Ibid., 16 August 1890.
73. Fortun, *Anales,* vol. 1, pp. 136–7.
74. Fortun, *Anales,* vol. 6, p. 13.
75. *Boletin de Remedios*, 8 June 1861.
76. *El Criterio Popular,* 16 July and 1 August 1889.
77. Ibid., 29 July 1891.
78. Ibid., 4 March 1880.
79. Fortun, *Anales,* vol. 3, pp. 11–12.

5

‘Your Foreign Plants Are Very Delicate’: Peasant Crop Ecologies and the Subversion of Colonial Cotton Designs in Dharwar, Western India, 1830–1880

Sandip Hazareesingh

Introduction

As in other cotton-growing agrarian environments colonised by Europeans,[1] the onset of British colonial rule in rural western India was accompanied by pressures on local peasants to adopt and cultivate new foreign varieties of cotton so as to transform the species into one of the main commodities for the export market. Moreover, the potential of raw cotton to generate high land revenue assessments in western India was held to be considerable; indeed, the entire structure of colonial rule at local rural level was organised around the levy and collection of land revenue, which comprised the colonial state’s primary source of income.[2] In 1835, revenue officials of the Government of Bombay, anxious to find out why the *raiyats* (peasant cultivators) of the district of Dharwar had not taken advantage of opportunities to grow ‘superior’, allegedly more profitable, foreign (mainly American) cottons, in preference to their ‘country cotton’, sent out local *mamlatdars* (junior indigenous revenue officials) to each *taluka* (district administrative sub-division) to investigate the possible reasons. The responses of the peasants articulated their understandings of the social and ecological dynamics that lay at the heart of their farming practices.

The foreign cottons, they asserted, were ‘very delicate’: once sown, they took longer to come to maturity and were more vulnerable to

adverse weather conditions. This prolonged soil occupancy put 'enormous pressure' on the cultivators' subsistence livelihoods, interfering in particular with jowar (millet) food cultivation, whose variety of produce and quicker rates of maturity during the agricultural year became much harder to sustain. In addition, the extended presence of the foreign cottons hampered the customary grazing of cattle in the fields during the month prior to the arrival of the south-west monsoon. As the peasants had to prioritise the well-being of their animals, these cotton plants were often sacrificed and ended up destroyed. Moreover, their seeds were more brittle than those of the local indigenous Kumta cotton, and the womenfolk of their families found them virtually impossible to clean using the habitual foot roller. The seeds ended up smashed and mixed up with the staple during the ginning (cleaning) process. Nor were the peasants convinced by promises of greater profits to be made from the 'exotic' cottons, as these required watering and constant attending to, as well as separate gathering, all of which involved higher labour and other production costs compared to Kumta cultivation. They pointed out that they always did well from the indigenous variety, as even in bad years when harvests were down, cotton prices went up, thus ensuring good returns.[3]

In thus responding to a query about a single crop, cotton, the peasants were at pains to define, more holistically, the priorities of their everyday livelihoods centred on the production of food. Moreover, they implicitly identified diverse entanglements between the human and non-human elements (seeds, plants, soil, weather, ginning machine, cattle) in their living environment, emphasising the need for a careful nurturing of these relationships to secure the required livelihood outcomes. Drawing on their local knowledge of soil, plants and climate, they sought to maintain a sustainable balance between food and indigenous cotton crops, while at the same time endeavouring to resist, during this period, the attempted colonial promotion of foreign cotton varieties. Viewing the lands they occupied as a life-sustaining 'commons', they perceived colonial attempts to commodify them through the production of export-oriented cotton as threats to their control over the means of subsistence and to the self-sufficiency of the household.

An environmentally nurturing 'anti-commodity' consciousness thus pervaded the peasants' productive activities based on the perception that the lands they farmed were integral to the reproduction of their lives; and they devised, to borrow Karl Polanyi's term, a 'countermovement' to colonial designs that relied on a fluid strategy involving passive non-compliance with official objectives and active affirmation of their

own crop choices and cultivation practices rooted in their knowledge of the local agrarian environment.[4] Usually shunning outright confrontational modes of resistance, the peasant cultivators of Dharwar were, as in their response to the revenue officials here, more intent on emphasising the reasonableness of their refusal to comply:[5] the desired introduction of the foreign cottons would not only disrupt and endanger their livelihoods, it was also based on erroneous colonial assumptions and judgements regarding the sturdiness and productivity of these varieties. Having experientially established the flawed theoretical basis of colonial cotton designs, the cultivators could then go on to affirm their accustomed modes of cultivation rooted in more expansive livelihood objectives.

By articulating an awareness of the reciprocal relationship between economic agrarian production and natural environmental life, these peasant voices also invite a political ecological engagement with their situated histories. A fluid, cross-disciplinary approach rather than a 'theory' in the conventional sense,[6] historical political ecology emphasises the idea of 'social nature', that is to say the co-constitutive and entwined processes between human and natural agencies that have historically produced socio-natural environments, thus making any analytical separation between 'human' and 'natural' redundant; at the same time, the scope of what can be considered significant historical actors is extended to a wide variety of natural phenomena which interact with the political world of human struggles. Indeed, socio-natures are physically (re)constituted over time to serve specific and often hegemonic social interests.[7]

Historical political ecology is also quite explicit in its commitment to a 'history from below' perspective, exploring in particular the modes of creativity and resilience of local communities (often indigenous peoples) faced with past environmental challenges rooted in specific socio-political conditions. Moreover, its emphasis on the time and place specificities of socio-natures as well as of environmental historical narratives, entails a particular methodological strategy that relies on a detailed investigation of primary sources and a close re-reading of archival documents so as to determine their spatially specific historicity.[8]

Colonial cotton misconceptions

In seeking to transform the 'alien' cotton environments of Dharwar and the Southern Maratha Country in the aftermath of conquest, incoming British officials invariably met with disappointed hopes and unintended

consequences largely as a result of introducing erroneous agricultural practices. In the early 1830s, the Edinburgh-trained surgeon-naturalist Dr Charles Lush believed that the cotton experiments he was about to undertake would flourish on the 262-acre government farm in Sigihalli, Belgaum rather than in the more obvious black cotton lands of eastern Dharwar. Lush relied on his own expertise and the aid of his carefully chosen assistants and did not seek information or involvement from the local peasant cultivators. As the main objective of his cotton experiments was to introduce 'the culture of superior kinds of perennial cotton and improvements in the indigenous mode of cultivation, cleaning and preparation of annual cottons', he deliberately sought to bypass local cultivating knowledge and practices (Figure 5.1).[9]

Locating the project in the red rocky soil of Sigihalli, which he admitted was not 'what is usually understood by a cotton district', would,

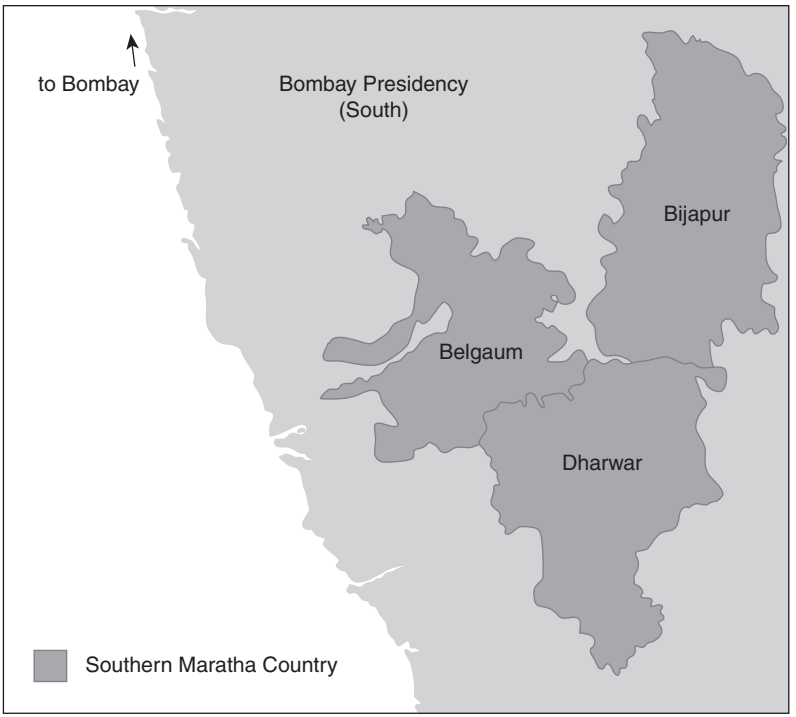


Figure 5.1 Map of Southern Maratha Country in the 19th century, comprising the districts of Dharwar, Belgaum and Bijapur, by Jenny Kynaston

he believed, spur the naturalisation of Pernambuco cotton, one of the foreign perennials: here it could be watered by a stream if necessary, whereas it had failed to thrive in the black soils of Dharwar in 1829. Moreover, he asserted that there would be no 'habits or prejudices' that would get in the way of securing 'improved' modes of cotton cleaning. In addition to the Brazilian Pernambuco, the trials with foreign cottons involved Bourbon and American Georgian Upland perennials as well as another American annual variety, New Orleans. Lush's plan was to eventually extend the perennial cottons grown on the farm throughout Dharwar district once he was able to demonstrate their viability to, and incentivise, local cultivators.[10]

These cotton plants, however, failed to thrive in the red soil, which in the hot arid climate could not retain moisture for the required length of time, nor was Lush's attempts to use the local stream for irrigation purposes successful. He also remained unaware of local cultivators' practice of using manures to increase the fertility of red soil lands. As a result, the Pernambuco plants became increasingly blighted and produced very poor crops. The Bourbon cotton that was planted at the same time failed to come up at all, while the Georgian Upland and New Orleans varieties degenerated rapidly, yielding nothing of value.[11]

With the bulk of the foreign cotton experiments at Sigihalli appearing to fail by the early 1830s, Lush was forced into a change of heart and took American seed to the Dharwar cotton country to be sown by local cultivators. Here, he found that he had to offer cultivators in Navalgund 'considerable advances in price of about 30 per cent' to get them to sow this cotton and pick it "clean". Moreover, Lush discovered that New Orleans cotton only fetched a quarter of a pence more on the Bombay market than local Kumta cotton, so the experiment failed to give the American variety 'an additional value commensurate with the expense of preparation'. He was forced to conclude that even if successfully grown, the foreign perennial cottons 'cannot be extended throughout the Dharwar district as the rise in value and extension of its own staple is sufficient to prevent this'.[12]

Moreover, no solution was found to one of the main issues identified by the cultivators themselves – the brittle nature of the foreign cotton plants. Lush had entertained high hopes that the new state-of-the-art Whitney saw-gin, 'so easily worked that it can even be managed by slaves' according to one colonial official, would do for the foreign, and perhaps even Indian, cottons what it had apparently achieved for American cotton.[13] In America, by revolutionising the speed at which the wool was separated from the seed, this machine was credited with

enabling a massive leap forward in cotton production during the first couple of decades of the 19th century. In the Southern Maratha Country, however, the staple of the American plants had been transformed by exposure to the local climatic environment, becoming more brittle and unstable, and it could not withstand the high velocity of the saws of the Whitney machines. The fibre of these cottons was often 'cut to pieces' and rendered useless for manufacturing purposes.[14] In 1835, use of the Whitney saw-gin was forbidden by order of the Bombay government, and a year later the Sigihalli Farm was closed down for good.[15] The Bombay government's verdict was that Lush's experiments had failed: after six years of the Farm's existence, none of the cultivators in its vicinity had taken to growing any of the foreign cottons, nor had they 'in the slightest altered or deviated from their accustomed modes of cultivating, gathering and separating the cotton from the seed' (Figure 5.2).[16]

This failure, however, did nothing to dissuade Lancashire, where the cotton crisis of 1837 led to renewed pressure on the East India Company's Court of Directors in London to step up measures to secure supplies from India with the eventual aim of replacing its dependence on the United States. The Court of Directors responded by instructing local governments in India to undertake an unprecedented experiment in cotton improvement, hiring 12 American cotton planters recruited from the state of Mississippi, who were to work with colonial botanists under the supervision of the local governments. Arriving in India in 1840, the planters brought with them 'large quantities of the best cotton seed, American ploughs and hoes, saw-gins, and presses for packing the cotton after cleaning'.[17] As a governmental initiative, cotton 'improvement' now reached an entirely new level, characterised by substantial funding designed to support interventions from these technical 'experts'.

But in the Southern Mahratta Country few if any lessons appeared to have been learnt from the failure of Lush's experiments. The new cotton project, moreover, continued to be beset by inter-colonial disagreements, essentially caused by the local agrarian environment's refusal to conform to colonial preconceptions about its 'productivity'.[18] Local colonial officials and American planters rapidly found themselves at loggerheads due to professional rivalries and conflicting knowledge claims about how best to make the cotton landscapes more productive. Himself an enthusiastic naturalist, the Collector of Dharwar, A. N. Shaw, drew on the promising outcomes of the New Orleans experiments conducted by local smallholders under Lush to induce the raiyats to take

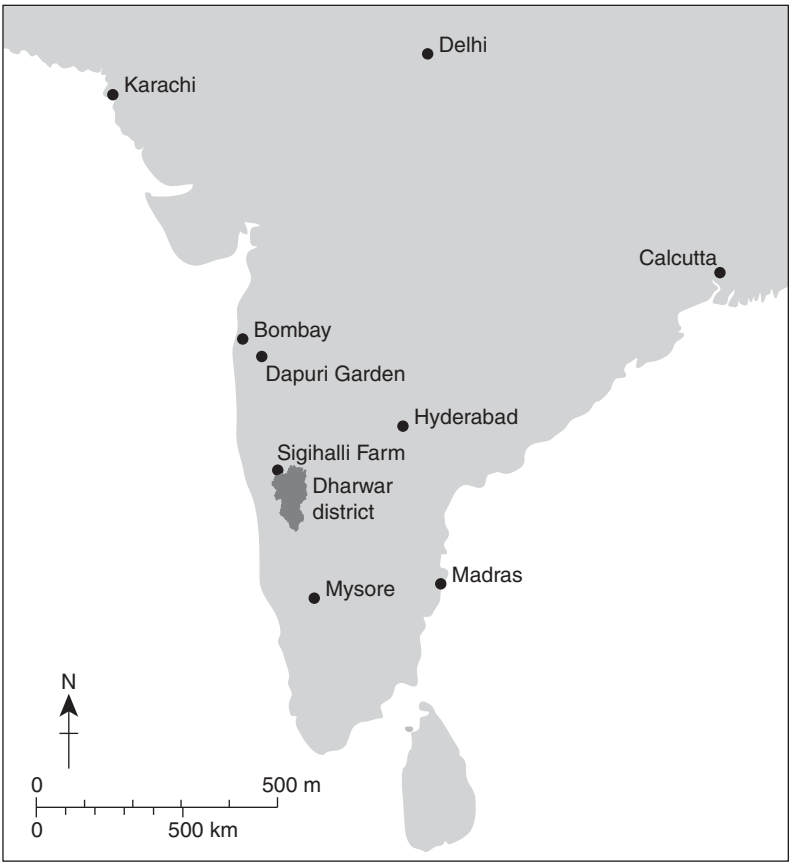


Figure 5.2 Map of India showing Dharwar district and Sigihalli Farm, by Jenny Kynaston

up, once again, the growing of American cotton in their own fields according to their accustomed methods.

In contrast, W. R. Mercer, the American planter assigned to the Dharwar region, followed the blueprint of previous experiments by locating them on special government farms away from the main cotton-growing areas, where he attempted to change the seasonal timing of the sowing process and to introduce the essentials of the 'American' method of cultivation. He instructed the local cultivators employed on the government farm to begin planting New Orleans cotton in June instead of

their usual practice of sowing Kumta in late August or early September.[19] Moreover, in place of the Indian method of thick, broad cast sowing, with the plants closely huddled together, the American cotton was planted in rows up to five feet apart, with the soil subjected to frequent ploughing and hoeing with expensive imported implements; and in a further departure from the local cultivating pattern, there was an emphasis on intensive mono-cultivation without crop rotation during the initial experimental years (1843–45).[20]

But natural forces in the shape of weather and pests wreaked havoc on the experiment, as 'constant high winds' disrupted the growth of the American plants in the first year, while the following year, sowed on the same soil, they 'were attacked by field bugs and caterpillars and yielded poorly', two-thirds down on the previous year.[21] In contrast, the neighbouring fields of the local cultivators produced a good crop of American cotton, which both Shaw and Mercer admitted to being far superior to the produce of the government farm. Shaw now roundly condemned the experimental farms as 'an exemplary failure', convincing in effect the Bombay government to close them down for good.[22] With Shaw's temporary absence from Dharwar on sick leave, Mercer now attempted a new strategy to promote the cultivation of New Orleans, offering contracts to local peasants to grow the cotton in their own fields, under the supervision of the Acting Collector, Mansfield.

Mansfield issued instructions to the mamlatdars 'to take much pains and cause the ryats to sow as much of the seed of the American cotton as possible, and you are to report to me how many acres and how much seed has been sown in each village'.[23] Under constant pressure to maximise revenue, the mamlatdars saw it as their duty to take whatever measures necessary to increase the cultivation of cash crops.[24] They went round the villages of Dharwar prescribing the times of sowing, weeding and picking the American cotton. Revenue officialdom tended to be perceived as oppressive at the best of times, and these injunctions further alienated the raiyats, threatening their accustomed seasonal patterns of cropping which were primarily oriented towards food production. Peasants who stuck to their established modes of cultivation found themselves subjected to interrogations and fines by revenue officials. By early 1847, they were expressing their distaste for the contract system to the new Dharwar Collector, Bell, referring to it as *upaddrav* (physical oppression).[25] They also complained about the new saw-gins brought by the American planters: these proved to be little improvement on the Whitney machine, once again damaging the transplanted cotton during the cleaning process, cutting the staple and rendering it 'weak and

uneven'.[26] The raiyats reiterated their view that, in their experience, the American plant 'did not thrive' in comparison with Kumta and that its seed was less valuable as food for their cattle.[27]

A project which had aimed at winning over peasants' hearts and minds to a new cotton species and a different mode of cultivation had secured precisely the opposite outcome. The failure of the cotton environment to meet 'improvement' expectations generated anxieties which manifested themselves in a further intensification of inter-colonial discord about the best way forward. The returning Shaw laid into Mercer's contract system, which he warned could only lead to the ruin of the American cotton experiment as it was based on 'governmental monopoly'. This regime, he asserted in a letter to the Bombay government, was 'bound to fail' as the principles of contract and compulsion under which it was carried out 'prevented the real market value of the cotton being known' to merchants, nor was there any real incentive for contract peasants to exert themselves. Shaw roundly condemned the Americans who, he observed, had come to Dharwar at his official request, but had proved to be 'neither good agriculturalists nor mechanics'.[28]

The Bombay government duly instructed Collector Bell to abolish the contract system in February 1847, convinced by reports reaching them that village-based revenue officials had indeed used various methods of compulsion to 'persuade' the raiyats to grow American cotton.[29] This was undesirable and had simply resulted in reinforcing their 'prejudices' against it. Mercer had resigned a few months earlier but before leaving the country, he got back at Shaw by radically questioning not only the contract system which he had himself largely devised, but the entire colonial project of introducing American cotton in India. He now asserted that neither Dharwar nor anywhere else in India possessed the right climate for the introduction of American varieties; these cottons would not be sustainable and would not provide any 'lasting benefit'.[30] By the mid-1850s, with little to show for their expenditure of £100,000 on the project, the Court of Directors brought the state-directed American cotton experiments in India to a close.[31]

Peasant crop choices and the maintenance of a sustainable socio-nature

By the end of his stay in Dharwar, Mercer had been converted to the indigenous methods of crop cultivation. He observed that

> the American system of cultivation was not suitable to India and [...] the natives were, from their knowledge of the climate and capabilities of the soil, able to cultivate better than any European [...] the skill exhibited by the ryots in their agricultural operations was very superior and their economical system enabled them to obtain much larger returns on the capital invested.

As a result, he concluded, 'little change or improvement' was required in the system of Indian agriculture, which was 'well adapted to the circumstances of the country and of the climate'.[32]

But cotton was, as we have seen, merely a subsidiary crop: smallholders who made up the bulk of the *Lingayat* agricultural population oriented their crop choices around the production of jowar (*sorghum vulgare* or Indian millet) designed to sustain household livelihoods and reduce the risks resulting from climatic hazards. A rainfed, eco-friendly crop, jowar and its products served as the main food for the local population, with the grain being either broken down and cooked into little cakes or ground into flour and made into chapatis; the straw, moreover, provided the best fodder for their cattle.[33] Peasants used their knowledge of local soils and microclimates to optimise production of this crop as they were aware that it could withstand short-term drought conditions, remaining dormant in moisture-deficient conditions and resuming growth with the arrival of more favourable weather. As a result, they were able to grow 18 different varieties of this foodstuff, all maturing within three to four months of sowing. Sixteen of these were *mungari* (early) crops, sown in June/July, at the onset of the south-west monsoon, drawing on the nourishment provided by the plentiful rainfall over the western red soil hills and on the greater moisture-retaining capacity of the black soil of the eastern plains, where these monsoon rains were far less reliable.[34]

The other two, known as *bili jola* and *kari-goni jola*, were finer varieties and generally preferred in the preparation of food. These were *hingari* (late) crops, grown solely on black soil, sustained by the more regular rainfall of the north-east monsoon over eastern Dharwar in September/October.[35] If the cultivators judged that these rains were adequate to ensure prolonged moisture in the soil after the monsoon, they would grow a second late grain crop, usually wheat or *gram* (pulses) to succeed, on the same fields, the early jowars.[36] Indeed, jowar was not merely a subsistence crop but, with a huge local demand for its straw used as cattle fodder, a surplus was produced for the market. In a region of climatic vulnerability, the crucial importance for smallholding raiyats of jowar

food production, supplemented by the often considerable possibilities of local sales, was barely recognised by the colonial state even though cultivators' occupancy rights meant that it could do little to actually limit its production. Jowar did not feature in official agriculture policy-making as it was perceived to be a 'low value' crop for revenue purposes. This would not be the last time that the policies of British colonial officials designed to introduce or prioritise specific cash crops would fail owing to their refusal to recognise the importance of food crops for both local consumption and exchange.[37]

From their knowledge of soil and climate, peasants were also aware that the deep moisture-holding capacity of the black soils was capable of hosting jowar and the local Kumta cotton in a complementary pattern of rotation. Fields sown with jowar in one year would have cotton (and in some places, wheat) planted the next year, and vice versa.[38] Like jowar, Kumta cotton had a significant function in sustaining household livelihoods, with peasants careful to put aside the best of the harvested crop for home spinning and local weaving (rather than for export markets), while the dry stalks were a cheaper alternative to firewood as fuel for cooking and heating.[39] Again, as with jowar, its seeds were also used as food for cattle and its leaves for sheep and goats.[40]

Some of the high-quality yarn produced in their homes by the labour of women was passed on to *darzis* (tailors) or to village weavers who were paid only for the labour required for the manufacture of the cloth the peasants desired. As a result, a colonial observer noted approvingly, 'a much better description of cloth, in accordance with the taste of the consumer, is frequently manufactured'.[41] This helped to create a strong cultural preference for handwoven cloth, which included fabrics produced for particular religious functions where community bonds were re-affirmed. Surplus yarn was sold to merchants and weavers in the market towns of the district for the manufacturing of a wide variety of durable cloths for the local population. These 'peasant markets', largely featuring smallholding tenant producers still controlling the means of subsistence, provided local cultivators with outlets to sell these surpluses to support their own production for subsistence.

Jowar and Kumta thus had a productive ecological entanglement, their diverse and complementary properties meeting many of the essential needs of the local peasant population. In the first half of the 19th century, it was estimated that half of the cultivated Kumta cotton was consumed in the home market of the Southern Maratha Country and the other half exported, via the port of Kumta, to Bombay in the north

(and from there mainly to China and, in very small quantities, to Britain) and to Bangalore in the south. With more outlets for sales than any other crop, cotton was always readily convertible into cash that raiyats could use to meet their land revenue payments. Nonetheless, its cultivation was always subordinated to the growing of jowar food crops. In fact, the smaller the farm, the larger the proportion likely to be taken up by subsistence food production.

George Wingate, the foremost Revenue Settlement official in western India during this period, noted that while at least 50,000 acres of land were suitable for cotton production in the south-eastern fields of Bankapur taluka, actual cultivation was 'considerably within this estimate' as on small farms 'more than half of the land suited for cotton I imagine to be appropriated to the production of food'.[42] Even a reasonably well-to-do raiyat, holding 30 acres of cultivated land, would in a normal year set aside about 16 acres for jowar and not more than eight for cotton.[43] Very often, it was much less than this: in the taluka of Dharwar, for instance, it was reported that very little cotton was grown at all even though 'the climate is admirably suited to the crop' and 'the prices of produce range higher in this district than in any other of the Collectorate'. The raiyats, however, found it 'more profitable to raise jowar from which, besides the grain, a large return is obtained by the sale of the straw in Dharwar and the villages along the Belgaum and Hubli roads'.[44] In the eyes of the cultivators, jowar was evidently a more valuable all-purpose crop than cotton (Figure 5.3).

The raiyats were also keen to maintain and enhance the fertility of the socio-natural environment and they produced various kinds of manure to improve the soil, drawing on renewable elements from their immediate surroundings. The main type of manure used, referred to by colonial officials as 'mixed manure', was made up from cattle droppings and urine, leaves of cotton plants, stubble from crops, earth, weeds and ashes collected in a pit in the compound of the raiyat's house and allowed to increase as required. The pit ensured the coolness required to prevent evaporation. One method was to throw the cattle urine, collected by ducts, into the pit, so that its saline properties and nitrogen would enrich and aid the fermentation of the manure. Just before the sowing season, the manure was carted to the fields, spread on the earth and ploughed into the soil. An approving British revenue official commented that the peasants 'have discovered what many in our own country seem yet to learn, that one of the best ways to retain the enriching properties of manure is to collect it in a *pit* and not in a *heap*'.[45]

Figure 5.3 Dharwar district in the 19th century, by Jenny Kynaston

Another method was to get sheep and goats to eat the cotton plant leaves, the weeds and stubble, so that their urine and droppings could be used as manure. The sheep and goats would be moved all over the cultivated field to ensure an even spread. In this way leaves and grasses would be returned to the fields that produced them, but in a manner that fertilised and renewed the soil. An additional type of manure used to enrich the soil, known as 'green manure', was produced from *guryellu*, a local black variety of the oilseed plant sesamum (*sesamum indicum*). It was sown in late May or early June and grown for three months until it began to flower. It was then cut down by the *kunti* (heavy hoe) and ploughed into the soil, and considered sufficient manure for two years.[46] In areas of mixed arable/forest land, an alternative to using manure was the controlled burning of 'jungle' lands, with the soil allowed to lie fallow for a couple of seasons until the rejuvenated forest area sprang up again. Burning released nutrients into the soil and got rid of unwanted brush vegetation, and had long been practised by peasants as a sustainable mode of managing the local environment.[47]

Peasants' resistance to growing more cotton – especially American cotton – was therefore based on their perception of the need to conserve and preserve existing lifeworlds. Through their experience of a challenging climatic environment, they were aware that this depended on the sustainable use of scarce natural resources such as good soils, water, animals and fuel. They quietly subverted both the wishes of the distant industrial capitalists of Lancashire and the expectations of the more local colonial government by persisting in cultivating according to their accustomed ways, and in maintaining the production of a diverse and balanced range of crops. In the process, they drew the admiration of more than a few local colonial officials with whom they interacted in the fields.

Climate change and cotton boom

Raiyats in the black soil localities of eastern Dharwar were well aware of the problematic nature of the local rainfall. Indeed, these jowar and cotton producing areas could not rely on the 'uncertain and scanty' rainfall from the main south-west monsoon between June and August; instead, they were almost entirely dependent on the north-east monsoon between September and December. 'If it were not for the north-east or Madras monsoon', observed the *Dharwar Gazetteer*, 'much of the country would be liable to famine'.[48]

In order to meet this climatic challenge, peasant cultivators had come to devise several strategies to reduce their vulnerability to the semi-arid environment. The most important was the practice of water-harvesting based on traditional storage reservoirs or tanks which collected surface run-off during monsoons. However, the maintenance of tanks had been neglected since the establishment of British rule, and their steady deterioration was to contribute to the local subsistence crisis of the 1860s.[49] Another strategy was to identify specific local topographies of rainfall, groups or even parts of villages which they defined as *malnad* or *muladu*, that is to say belonging to the region of rain. The peasants had learned to recognise not only rainfall timings but also differences in duration and intensity and were accustomed to naming the different falls of rain during the agricultural year according to the 27 lunar asterisms; these functioned as markers of seasons, with different seasons being described as beginning or ending with a particular named rain. The raiyats used these rains to inform the sequencing of their tilling operations; thus, the rains of the constellation of *Rohini*, between 23 May and 4 June, signalled the start of the *mungari* or *kharif* (early crop sowing) season.[50]

In contrast to this nuanced and realistic understanding of local rainfall patterns, colonial officials constructed a general and wishful model of the climate of Dharwar, based on what Collector Shaw described as 'the unusual advantage of two rainy seasons'.[51] Anxious to assert the 'cotton improvement' suitability claims of Dharwar and the Southern Maratha Country against what he perceived to be the Bombay government's bias in favour of the hitherto premier cotton district of Broach in Gujarat, and keen to secure the services of one of the American planters for Dharwar, Shaw had suggested that uniquely within western India, the Dharwar climate closely resembled that of the cotton-growing districts of the American south. In particular, he emphasised what he believed to be the lingering atmospheric moisture from the successive monsoon rains which, he proclaimed, would enable the New Orleans plant to mature properly.[52]

Thus, in contrast to prevailing colonial discourse on human acclimatisation, which held that Europeans were inherently unsuited to Indian conditions, the reverse was imagined for plant acclimatisation in the interests of cotton 'improvement'. However, not only was the climate of the relevant localities of Dharwar not quite what Shaw and other colonial officials had constructed it to be, it was also undergoing significant change owing to the virtually continuous deforestation in regions adjoining the Southern Maratha Country that had been occurring since the period of British conquest.

In 1846, at the height of the major experiment with American cotton, Alexander Gibson, Superintendent of the Dapuri Botanic Garden in Poona, submitted a report to the Bombay government on the state of the forests of south Konkan, north Kanara, and Soonda, located on the western and southern borders of Dharwar. The major clearance of forests in the southern Konkan in particular, he pointed out, had caused 'the climate to become drier, the seasons more uncertain, and the land less fertile'. This view was confirmed by his conversations with local inhabitants. But the really important message he sought to convey was that:

> such a change of climate would not be limited to the district in which the clearance actually takes place. Take for example all the Southern and Western portion of Dharwar. This fertile country abounds in moisture insomuch that it has been rather inaptly compared to the valley of the Mississippi. At all events, American upland cotton grows there which it will hardly do in other parts of the Bombay Presidency. I think it is not too much to say that much of this moisture depends on the wooden country forming its western border, and that with the complete removal of this, the climate would greatly change.[53]

Five years after Gibson's report, the Medical Board, effectively the Health Department of the Bombay government, was concerned enough to press the Revenue Department to release funds 'for improving the climate of Dharwar through the planting of trees'. This was now urgent as

> on the authority of the old native inhabitants, the climate had undergone very considerable deterioration during the last 10 or 15 years, and the reason mentioned is the clearing away of the forest and brushwood which once closely approached the station to the south and west. The effect upon the climate is said to be a diminution of moisture as regards night dews and passing showers. This as a matter of course has affected the temperature and, natives say, the healthiness of the station.[54]

Embedded in the colonial archive, we find in this passage, however muted and indirect, the voices of the people of Dharwar as authentic witnesses of a changing climate, their local knowledge and longer experience of their environment convincing more temporary colonial officials of the veracity of their views. The effects of the climatic changes

on the fertility of the agrarian environment began to be observed from the mid-1860s in the midst of a fresh 'cotton improvement' initiative spearheaded once again by Lancashire, and provoked by the total collapse of raw cotton supplies to British factories during the American Civil War. By this time, India was supplying 71 per cent of the cotton imported into Britain, compared to just over 12 per cent prior to the outbreak of the Civil War, and Dharwar played its full part in helping to relieve Lancashire's 'cotton famine'.[55] However, the combined effects of climate change and cotton boom now produced fresh challenges to the livelihoods of the smallholding raiyats.

This period was marked by a resurgence of New Orleans cotton (now renamed 'Dharwar-American') which had begun in the mid-1850s, facilitated by its partial acclimatisation after a decade and a half, by an uptake in international demand as a result of the Crimean War, the introduction of a new, successful ginning machine produced locally, and the easing of the land tax burden on the raiyats following Wingate's revenue reforms.[56] The explosion in demand during the years of the Civil War led to the trebling of the local price of American cotton between 1860 and 1864.

However, this sudden and ultimately short-lived international demand for just one crop, cotton, led not so much to the 'commercialisation' of local agriculture hoped for by the Bombay government's newly set up Cotton Department, as to its distortion and unsustainability. The price hike in American cotton was not only due to demand from Lancashire but more fundamentally to speculative practices on the part of local *sawkars* (bankers) who 'backed by Bombay speculators paid as much as £10 (Rs.100) the acre for planted cotton fields', a grossly extravagant sum even in relation to prevailing prices.[57] In these circumstances, the pressure on peasant cultivators to plant 'every available patch' with cotton was immense, disrupting the finely balanced ecology of peasant crop production.[58] In particular, there was an observed drop in previous patterns of sustainable farming through crop rotation which impacted adversely on the cultivation of jowar food crops for domestic consumption.[59]

But the cotton bubble burst as abruptly as it began, an interaction of climatic and economic processes heralding its demise from the mid-1860s. Inadequate rainfall affected the north-eastern talukas of Dharwar over two consecutive seasons, 1864–65 and 1865–66, in the middle of which the American Civil War also came to an end. The yields of all crops diminished and cotton prices fell, immediately putting peasants under severe economic pressure. Crop failure was, however,

particularly crucial in the case of jowar food crops, whose cultivation had fallen significantly since the early 1860s, resulting in over a four-fold increase in their price. One rupee could buy 90 lbs of millet in 1860, but only 20 lbs in 1866.[60] With food grains both scarce and expensive, eastern Dharwar was hit by famine in the summer of 1866, a prologue to the more severe outbreak of 1876–77. Significantly, the most afflicted localities were the main cotton-growing talukas of Navalgund, Ron and the Dambal area of Gadag, which had been specifically chosen two years earlier by the Cotton Department as a privileged site for growing Dharwar-American cotton.[61] Famine signalled a rupture in the mixed and diverse cropping system that local raiyats had carefully built up to guard against the risks of climatic catastrophes. The exacerbated cotton imperialism of the 1860s had culminated in a subsistence crisis for the traditionally well-adapted peasant communities of the eastern talukas of Dharwar.

The demise of Dharwar-American cotton

Climate change continued to affect the agrarian environment of Dharwar beyond the crisis of the mid-1860s, culminating in the devastating monsoon failure of 1876–77. The thinning of the forest belts of southern Konkan and Soonda, and the decimation of Dharwar's own forest cover, led to a number of adverse consequences that were particularly felt in the eastern talukas. First, there were overall drops in rainfall and in atmospheric moisture which put the people of the eastern plains under increased pressure, particularly in a region with declining water storage facilities such as ponds and wells, much neglected during the first half-century of colonial rule.[62]

Secondly, rainfall for agricultural purposes, which could in other words be productively utilised by crops to support their seasonal growth, became more unpredictable. Here the timing of the rain was all-important, and the absence of showers until September, following a number of seasons of deficient rainfall, precipitated the food crisis of 1866; conversely, unseasonal or excessive rainfall could also have a destructive impact on crops, as in 1869, when 'losses in cotton production after initial optimistic forecasts' were partly attributed to rain falling in December and 'dark and cloudy weather instead of sunshine which is always indispensable for cotton after the ground has been well soaked'.[63]

Thirdly, the loss of protective regional forest and local tree and shrub cover adversely impacted on soil fertility in Dharwar's eastern plains.

Soils under fallow were now subject to intense direct heat from the sun, reducing their moisture storage capacity and increasing their susceptibility to wind erosion; moreover, unchecked by tree cover, the post-monsoon winds were now free to exercise unprecedented effect. Dharwar's hot easterly winds gained in intensity as well as, with the fall in atmospheric moisture, in dryness, with dramatic effect on the cotton plants. In 1869, Cotton Commissioner Forbes gave the following explanation to the Bombay government for the reduction in that season's cotton crop:

> A plentiful fall of rain towards the end of September gave a great impetus to the young plants so that during the next three months they continued to maintain a strong and promising appearance, which gave rise to anticipations of a better crop than any that had been realised for many years. Unfortunately, however, at the beginning of January, dry, searching easterly winds set in, the pernicious effects of which are well known and dreaded by the cultivators; and as early as the 4th of that month, their first bad effects began to appear in the shape of a species of blight, which very soon became general.[64]

A year later, Forbes was again reporting on the destructive effect of this 'wind blight', describing it as 'the bane' of the Southern Maratha Country. Moreover, he observed,

> of late its recurrence has been more frequent and its influence more severely felt. It may be described as the effects of a hot wind, more injurious from its peculiar dryness than from the heat that accompanies it. Its action on the cotton plant is direct and speedy and no amount of moisture in the soil will avert it.[65]

Another consequence of the accentuated dry climate was that 'exposed to the fierce rays of the sun' during the fallow period, the upper surface of the soil became 'baked and hardened into a crust, which is about as inaccessible to the plough as if it were a pavement'. Forbes concluded that in his view, increasing cotton crop losses were due to 'climatic influences, the nature of which we are as yet but very imperfectly acquainted'.[66]

Both varieties of cotton clearly suffered from the effects of climate change. However, the greater moisture requirements of Dharwar-American cotton at crucial stages of plant growth meant that it became

particularly vulnerable to the drier and increasingly unpredictable weather conditions; while Kumta, maturing later, had a better chance of 'escaping an early setting in of the injurious dry winds'.[67] Unseasonal weather, moreover, often attracted pests that continued to primarily target the 'exotic' American variety. For instance, in the 1878–79 season, which was characterised by generally 'unfavourable' weather, the yield of Dharwar-American cotton was described by Cotton Inspector Walton as having been adversely affected by 'the rats which infested the cotton fields' and which apparently 'committed the greatest mischief among the American plants, devouring the finest bolls; as a result, the crop proved unsatisfactory to such a degree that very few European merchants would have anything to do with it'.[68]

The American variety continued to be the main focus of the Cotton Department's 'improvement' programme for a decade and a half after the end of the cotton boom, but with increasingly diminishing returns. It became clear that the seed of New Orleans was deteriorating but neither a careful selection of local acclimatised seed nor the importing of pure fresh seed provided by the Cotton Supply Association in Britain, seemed to be able to arrest the loss of germinating power.[69] Overcropped during the cotton boom years, the black soils of the eastern plains additionally lost moisture and fertility as a consequence of deforestation, and with 'bad seasons' recurring more frequently, all of this combined to take their toll on Dharwar-American cotton. Its plants had lateral roots that tended to spread close to the surface, that is, the driest levels of the soil beyond the initial stages of growth, in contrast to Kumta whose long tap-root enabled it to draw moisture and sustenance from greater depths.[70] By the 1870s, New Orleans had reportedly 'declined in staple and lost its silkiness'.[71]

Walton now reported that local prices for 'machine-ginned' (American) cotton had dipped below those at which 'fair foot-rolled' (Kumta) cotton were selling.[72] Dharwar-American had now lost its leading position among Indian cottons in the market. As it dropped in yield, quality and price, the dealers and large landholders who had championed its expansion began to drastically cut back cultivation. In 1880, the Cotton Department reported that 'much of the land formerly devoted to exotic (American) cotton was turned to the cultivation of the indigenous fibre' amid 'a general disinclination' to cultivate this cotton which was now perceived as 'unremunerative'.[73] Kumta was back with a vengeance, its cultivated area comprising in that year a record 439,251 acres compared to Dharwar-American's mere 77,121 acres, effectively pulling the latter back to its mid-1850s position.[74] By this time too, steam

Table 5.1 Dharwar cotton cultivation area, 1842–83

Year	New Orleans	Kumta	Total	Year	New Orleans	Kumta	Total
	Acres	Acres	Acres		Acres	Acres	Acres
1842–43	27	184,237	184,264	1863–64	323,535	203,626	527,161
1843–44	545	178,411	178,956	1864–65	280,230	185,374	465,604
1844–45	2,749	182,437	185,186	1865–66	261,943	160,046	421,989
1845–46	11,176	164,591	175,767	1866–67	304,688	161,750	466,438
1846–47	22,331	167,592	189,833	1867–68	300,399	181,485	481,884
1847–48	20,502	179,229	199,731	1868–69	317,310	194,586	511,896
1848–49	3,351	201,578	204,929	1869–70	425,099	222,116	647,215
1849–50	15,573	225,685	241,258	1870–71	335,297	195,304	530,691
1850–51	31,668	223,315	254,983	1871–72	315,387	203,191	518,578
1851–52	42,647	221,676	264,323	1872–73	195,809	318,448	514,257
1852–53	28,010	251,114	279,424	1873–74	215,325	268,169	483,494
1853–54	41,403	252,006	293,409	1874–75	234,341	221,343	455,684
1854–55	63,298	210,260	273,569	1875–76	336,235	232.630	568,865
1855–56	66,514	202,843	269,357	1876–77	44,024	99,830	143,854
1856–57	108,207	196,931	305,138	1877–78	128,277	277,300	405,577
1857–58	130,880	252,850	383,780	1878–79	246,210	233,280	479,490
1858–59	124,752	214,993	339,745	1879–80	141,726	331,465	473,191
1859–60	191,281	230,665	421,946	1880–81	77,121	439,251	516,372
1860–61	191,026	234,452	425,478	1881–82	138,790	395,396	534,186
1861–62	214,310	200,491	414,801	1882–83	145,397	375,070	520,467
1862–63	363,174	207,063	570,237				

Source: J. M. Campbell (1884), *Gazetteer of the Bombay Presidency*, vol. 22: *Dharwar*, p. 302.

machine-ginning of Kumta, introduced during the cotton boom of the 1860s, had been 'entirely discontinued' as 'it was found that it could not successfully compete with "foot rolling" ' (Table 5.1).[75]

Even so, with the easing of the pressures of the cotton boom period coupled with their experience of increasingly erratic rains, the peasants quickly resumed the prioritisation of jowar food grain cultivation: jowar dominated the cultivated land acreage, habitually occupying around one-third of the tillage area of Dharwar. As Walton recognised in 1873, the culture of cotton continued to be primarily determined 'first by the quantity of grain left in the district' and 'second by the rainfall of the season'. Jowar remained the premier crop and the one prioritised to receive the expected rainfall; buoyant local demand, moreover, tended to increase its cultivation at the expense of cotton.[76] Kumta remained important as a subsidiary 'dry' crop that brought money into the villages, as 'the *one* article that always commands the readiest and best

sale', but it is clear that the raiyats were still, in the late 19th century, holding firmly to their risk-averse patterns of crop production.[77]

At the same time, climatic factors interacted with economic processes to deal a seemingly mortal blow to the fortunes of American cotton. Kumta had coped with the local decrease in moisture levels rather more robustly than Dharwar-American: unlike the latter, it was not prone to complete crop failure in adverse weather seasons.[78] Synchronistically, the emergence of the Bombay cotton textile industry in the 1870s led to a new and 'very large' demand for the Indian variety from its steam-spinning and weaving factories as well as increasing demand from spinning mills now emerging in the Madras Presidency. The increased Kumta cultivation was geared to meeting the demand of the Bombay mills as well as of local village spinning and weaving, which by the mid-1870s had reached very large proportions compared to its 'insignificance' a decade earlier. Indeed, it was observed that for cultural reasons, Kumta remained 'the greatest favourite with native weavers'. Virtually none of it went into the export market.[79]

In contrast to Kumta's resurgence, Dharwar-American cotton lost favour with Lancashire as supplies from the United States recovered towards the end of the 1860s, while the appearance of another cheap and abundant variety from the States known as 'middling New Orleans' deprived it even of a role as an efficient substitute.[80] This was part of a wider picture that saw Indian cotton exports to Britain drop by 60 per cent by the end of the 1870s, a prelude to the UK's virtual disappearance as a market by the mid-1890s. Meanwhile, the winding down of the cotton improvement programme in the Bombay Presidency was signalled by the abolition of the post of Cotton Commissioner in 1873.[81] The Cotton Department lived on borrowed time for another decade, sending its final report in October 1883. Two months later, it ceased to exist.

Conclusion

For British colonial officials in 19th-century Dharwar, cotton represented the natural fibre that could be magically tamed and engineered into a 'transformative commodity' in the interests of both Lancashire industrial groups and local government revenue generation.[82] It symbolised and represented the potential of the local agrarian environment to be transformed and commodified by demonstrating the superior monetary values that peasant cultivators could realise by focusing on growing produce for the export trade. The attempted social

engineering of cotton into an internationally consumable industrial product involved an impressive array of entangled initiatives for over half a century, comprising the introduction of and experiments with new American plants, the application of 'superior' foreign botanical knowledge, attempts to persuade local raiyats to improve their cultivating practices, experiments with different ginning machines and, ultimately, the use of colonial state power through the setting up of a new government department exclusively devoted to cotton 'improvement'.

However, these attempts at transforming the cotton landscapes of Dharwar were confronted by a range of socio-natural forces that colonial knowledge never quite got to grips with, and which therefore resisted and limited commodification. The entwined social and natural worlds of peasant crop choices, cultivating knowledge, climate, rainfall and soil presented formidable barriers to colonial cotton designs. Lush's inadequate understanding of the local climate and soils and his dismissal of peasants' cultivating practices condemned his initial experiments with foreign cottons to failure. No advance was made by succeeding American planters who similarly introduced inappropriate cotton cultivating methods that left the plants exposed to bugs and insects.

Above all, the experiments with American cotton in the 1840s relied on an erroneous construction of the Dharwar climate which was held to be similar to that of the cotton-growing regions of the American south. In fact, the 'delicate' plants generally failed to flourish in the absence of the expected rainfall levels, while those that did come up were then subjected to inappropriate ginning machines, rendering the staple unfit for manufacturing purposes. Moreover, rainfall in the main crop-producing areas of Dharwar soon suffered additionally from the effects of climate change, an 'unintended consequence' of the colonial transformation of the adjoining regional forests in the first half-century. As colonially produced 'socio-nature', the drier climate in turn exercised a blowback effect on, and ultimately disrupted the experiment with, Dharwar-American cotton unleashed with new urgency in the early 1860s in the wake of the American Civil War. Indeed, even this short-lived cotton frenzy primarily benefited moneylenders and speculators and ultimately had a disastrous impact on both the agrarian and human environments.

Partially as a result of these failures, the peasant cultivators of Dharwar remained unconvinced for most of this period by the claims made in favour of American cotton as a higher-value product than the

local Kumta variety. But more importantly, in a climatically vulnerable region, Kumta was integral to their diverse, risk-reducing cropping system primarily focused on ensuring food security and well adapted to the local agrarian environment. It contributed to sustaining household livelihoods, with local demand for this cotton remaining buoyant. Here, the local and regional markets for both Kumta cotton and jowar food crops were perceived as sites of opportunity, to be engaged with alongside their main preoccupation with production for subsistence. The cultivation of these crops could be increased if and when promising opportunities for sale presented themselves. In contrast, except for a short-lived period in the early 1860s, the peasants resisted the lure of replacing Kumta with American cotton, which they viewed as more risky in terms of potential returns from a rather uncertain export trade, as well as less ecologically supportive of their wider livelihoods.

In this context, Kumta cotton was only partly produced for sale, and its market was not a site of compulsion. Instead, it was an element of the anti-commodity logic of the peasant cultivators' relationship with their agrarian environment which was nurtured as the material source of their livelihoods rather than, more narrowly, as land primarily suitable for commodity production for the global capitalist market. Official cotton objectives were met by a repertoire of quiet resistance appropriate to existing colonial conditions and involved non-compliance with proposed agricultural changes and active affirmation of their own crop choices and cultivation practices. But also engaged in subverting these objectives were non-human agencies in the form of climate, soil and pests. The 'non-cooperation' of climatic elements, such as rainfall and wind in particular, was probably decisive in the failure of the American cotton projects. While the concept of anti-commodity is, as this volume testifies, necessarily open to a variety of meanings, this chapter has emphasised its ecological dimension expressed in a peasant countermovement to colonial designs that was essentially concerned with validating the production and use of the Dharwar agrarian environment as a sustainable socio-nature, and one on which depended the well-being of both human and non-human.

Afterword

This chapter is loosely based on two articles that have appeared in the *Journal of Historical Geography*, 38 (2012), pp. 1–17, and 42 (2013), pp. 88–99. Thanks to Jenny Kynaston for the maps.

Notes

1. Following Agrawal and Sivaramakrishnan, I use the term 'agrarian environment' rather than 'land' to emphasise the inclusion of the natural world within the sphere of rural production: A. Agrawal & K. Sivaramakrishnan (2000) *Agrarian Environments. Resources, Representation and Rule in India* (Durham, NC and London: Duke University Press), pp. 12–13.
2. D. Hall-Matthews (2005), *Peasants, Famine and the State in Colonial Western India* (Basingstoke: Palgrave Macmillan), p. 5.
3. Baker, Principal Collector Dharwar, to Government of Bombay (hereafter GOB), Revenue Department, 6 June 1835. Board's Collections, F/4/1635 no. 65498. Papers relative to cotton experiments in Bombay Presidency 1835–36, British Library (London), India Office Records (hereafter IOR).
4. In his classic account of the deficiencies of free market capitalism, *The Great Transformation*, Karl Polanyi argues that since the early 19th century resistant countermovements, historically involving a variety of social groups, have arisen from the need to protect life-sustaining natural environments from capitalist commodification: K. Polanyi (2001)(1944) *The Great Transformation* (Boston, MA: Beacon Press), pp. 151–2.
5. James Scott has suggested that passive non-compliance is one of the most commonly recurrent modes of everyday peasant resistance against those who attempt to extract taxes, labour, rents and food from them: J. C. Scott (1985) *Weapons of the Weak. Everyday Forms of Peasant Resistance* (New Haven, CT: Yale University Press), pp. 29–32.
6. For a comprehensive introduction to political ecology, see P. Robbins (2012) *Political Ecology* (Malden, MA and Oxford: Blackwell Publishing).
7. N. Castree and B. Braun, eds (2001) *Social Nature: Theory, Practice, and Politics* (Malden, MA and Oxford: Blackwell Publishing), p. 3.
8. K. H. Offen (2004) 'Historical political ecology: An introduction' *Historical Geography*, 32, p. 21.
9. Chief Secretary Reid, GOB, Territorial Department, to Court of Directors, 25 August 1836. Board's Collections, F/4/1635, no. 5503, IOR.
10. Ibid., Lush to Reid, 21 April 1835. Board's Collections, F/4/1635 no. 5503, IOR.
11. J. M. Campbell (1884) *Gazetteer of the Bombay Presidency*, vol. 22: *Dharwar* (hereafter *Dharwar Gazetteer*), Bombay, p. 287.
12. Lush to GOB, 1 December 1835. Board's Collections, F/4/1635 no. 5503, IOR.
13. Court of Directors to GOB, 16 February 1829. Board's Collections, F/4/1250, no. 50348, IOR.
14. GOB, Revenue Department letter, 4 March 1835. Board's Collections, F4/1635, no. 65498, IOR.
15. Lush to Reid, 21 April 1835. Board's Collections, F/4/1635 no. 5503, IOR.
16. Reid to Court of Directors, 25 August 1836. Board's Collections, F/4/1635, no. 5503, IOR.
17. J. F. Royle (1851) *On the Culture and Commerce of Cotton in India and Elsewhere* (London: Smith & Elder), p. 240.
18. J. Beattie (2011) *Empire and Environmental Anxiety* (Basingstoke: Palgrave Macmillan), p. 1.
19. *Dharwar Gazetteer*, p. 288.

20. *The Spectator*, 26 February 1842. Collections of Correspondence regarding the introduction and cultivation of American cotton and machinery in India 1839–42, H/374A, IOR.
21. *Dharwar Gazetteer*, p. 288.
22. A. N. Shaw to J. G. Lumsden, Bombay Revenue Department, 18 December 1847. Board's Collections, F/4/2317 1848–49, file nos 120035–7, IOR; Mansfield, Acting Collector of Dharwar, to Chief Secretary Pringle, Bombay Revenue Department, 9 May 1846, Board's Collections, F/4/2157 1845–46, file no. 103849, IOR; Summary of Proceedings Connected with the Government Cotton Experiments in the Southern Mahratta Country under the Bombay Presidency from 1830 to 1848, Bombay 1849, 31–32, IOR.
23. W. R. Cassels (1862) *Cotton: An Account of its Culture in the Bombay Presidency* (Bombay: Bombay Education Society's Press), p. 145.
24. J. Nisbet, Principal Collector Dharwar, to J. Bax, Bombay Territorial Department, 1 December 1828, IOR.
25. Cassels, *Cotton*, pp. 144–5.
26. Royle, *On the Culture and Commerce of Cotton*, p. 356.
27. J. P. Willoughby and D. A. Blane, Bombay Revenue Department, to Court of Directors, 20 August 1849. Board's Collections F/4/2378, 1848–50, file nos 126389–126393, IOR.
28. Shaw to Lumsden, 18 December 1847.
29. Willoughby and Blane to Court of Directors, 20 August 1849.
30. Shaw to Goldsmid, Bombay Revenue Department, 21 January 1848. Board's Collections, F/4/2317, file nos 120035–7, IOR.
31. Court of Directors to Government of Bombay, 30 April 1856. Board's Collections F/4/2676, file nos 181353–5, IOR; A. W. Silver (1966) *Manchester Men and Indian Cotton* (Manchester: Manchester University Press), p. 38.
32. Summary of Proceedings Connected with the Government Cotton Experiments in the Southern Mahratta Country, p. 74.
33. G. Wingate to S. Mansfield, Acting Collector of Dharwar, 29 September 1846, in Report by Captain G. Wingate, Superintendent of the Revenue Survey in the Southern Maratha Country on the Survey and Assessment of the Bunkapoor Talook (hereafter Bankapur Survey Report), Bombay 1848, p. 6, IOR.
34. J. T. Francis, Assistant Superintendent Revenue Survey, to Wingate, 18 June 1846, in Wingate, Bankapur Survey Report, pp. 58–9.
35. J. M. Campbell, *Dharwar Gazetteer*, p. 273.
36. Francis to Wingate, Bankapur Survey Report, p. 49.
37. For an African example, see G. Carswell (2003) 'Food crops as cash crops: The case of colonial Kigezi, Uganda' *Journal of Agrarian Change*, 3 (4), pp. 521–51.
38. Wingate to Mansfield, Bankapur Survey Report, p. 5.
39. Campbell, *Dharwar Gazetteer*, p. 366.
40. D. Young, Assistant Superintendent Revenue Survey and Assessment, Southern Maratha Country, to G. Wingate, in Wingate, Bukapur Survey Report, p. 58.
41. Francis to Wingate, Bankapur Survey Report, p. 42.
42. Wingate to Mansfield, in Wingate, Bunkapur Survey Report, p. 6.

43. J. MacLeod, Assistant Collector, Dharwar, to GOB, Revenue Department. Board's Collections, F/4/842 no. 22506-07: GOB Revenue Department 1825–26, pp. 8, 39–40, 43, IOR.
44. G. Wingate, Superintendent of Revenue Survey and Assessment in the Southern Maratha Country, to A. N. Shaw, Collector of Dharwar, 25 October 1844: Reports on the Revenue Survey Settlements of the Hoobullee, Nuwulgoond, Kode, and Dharwar Talookas of the Dharwar Collectorate, Bombay 1853 (hereafter Revenue Survey Reports). Selections from the Records of the Bombay Government no. 12, MF1/1014, p. 66, IOR.
45. Young to Wingate, Bukapur Survey Report, p. 50.
46. Ibid.; Campbell, *Dharwar Gazetteer*, p. 267.
47. Wingate, Revenue Survey Reports, p. 66.
48. *Dharwar Gazetteer*, p. 15.
49. Wingate, Revenue Survey Reports, p. 63.
50. Campbell, *Dharwar Gazetteer*, p. 271.
51. Ibid., p. 281.
52. Ibid., pp. 288–9.
53. A. Gibson, Superintendent Conservator of Forests, Bombay Presidency, to GOB, 9 March 1846. Board's Collections, F/4/2255, 1847–48, file no.11379, IOR.
54. J. Scott, Medical Board, to GOB, 7 February 1851. P/350/51, file nos 2753–8, IOR.
55. *Bombay Gazette*, 23 July 1870. Newspapers on microfilm, British Library, IOR.
56. S. Hazareesingh (2012) 'Cotton, climate and colonialism in Dharwar, western India, 1840–1880' *Journal of Historical Geography*, 38, pp. 10–11.
57. *Dharwar Gazetteer*, p. 253.
58. C. Walker, Cotton Department, to Government of Bombay, 30 April 1866. Bombay Revenue Collections 1866, IOR.
59. W. Walton, Cotton Inspector for the Southern Maratha Country, to E. P. Robertson, Collector of Dharwar, 30 July 1878. Administration Report of the Cotton Department (hereafter Cotton Department) 1877–78, Bombay 1878, p. 34, IOR.
60. *Dharwar Gazetteer*, p. 340.
61. Ibid., p. 308; Bombay Revenue Department to India Office, 8 July 1865. Bombay Revenue Collections, IOR.
62. Ibid., pp. 257, 266.
63. Cotton Department,1869–70, pp. 25–6.
64. Ibid., 1868–69, p. 15.
65. Ibid., 1869–70, pp. 26–7.
66. Ibid., 1869–70, pp. 20, 35, 42.
67. Ibid., 1869–70, pp. 43–4.
68. Ibid., 1878–79, pp. 2, 4.
69. Ibid.,1872–73, p. 67.
70. F. Watson (1879) *Report on Cotton Gins and on the Cleaning and Quality of Indian Cotton*, part 1 (London: William H. Allen & Co.), p. 31.
71. *Dharwar Gazetteer*, p. 301.
72. Cotton Department, 1872–73, p. 57.
73. Ibid., 1880–81, p. 10.
74. *Dharwar Gazetteer*, p. 302.

75. Cotton Department, 1874–75, p. 60.
76. Ibid., 1872–73, p. 63.
77. Ibid., 1876–77, p. 41.
78. Ibid., 1880–81, p. 10.
79. Ibid.,1872–73, pp. 62–3; 1874–75, pp. 61, 62, 64.
80. Ibid., 1878–79, p. 44.
81. Ibid., 1872–73, p. 63.
82. N. L. Peluso (2012) 'What's nature got to do with it? A situated historical perspective on socio-natural commodities' *Development and Change*, 43 (1), p. 80.

6

Sanitising Commercialisation: Health and the Politics of 'Waste' in Colonial Punjab

Lauren Minsky

Introduction

Histories of sanitation in South Asia are typically spun as tales of modernisation that work, at least implicitly, to legitimise the development regimes of former colonial and current national states. Beginning with colonial rule, the story goes, governments invested in the provision of sanitary works and services to remedy the problems associated with disease-causing 'waste' and, thereby, to raise living standards and improve life expectancies. Postcolonial nation-states, in turn, worked individually and collaboratively to further these goals, as reflected in programmes such as India's campaign for 'Sanitation for All by 2012' and the United Nations' Millennium Development Goals. To explain the persistent failure of state programmes to meet their target goals, ostensibly traditional and timeless 'un-hygienic' cultural beliefs and practices and a range of technical, logistical and financial obstacles are routinely invoked.[1]

By the 1980s, many historians expressed dissatisfaction with this modernisation narrative. They noted that far from investing in sanitation, colonial and national states in South Asia relegated fiscal responsibilities for the removal and treatment of waste to local municipal and district boards, and at times – such as following the imposition of structural adjustment reforms by the IMF – even encouraged privatisation of these services to further minimise costs. Consequently, sanitation in practice has been limited to the selective removal of waste from, and creation of sanitary enclaves for, affluent urbanites and landowners who sit on local government boards and those who have the means to

purchase such services on the market. Turning the original narrative on its head, then, revisionist historians tell a story of states' ongoing neglect of the sanitary well-being of most of South Asia's population, especially its poorest and disenfranchised classes.[2] In so doing, they draw needed attention to the significance of social inequality in shaping the historical and contemporary realities of sanitation. Yet, they also implicitly reproduce assumptions that unsanitary conditions are an a priori condition of both rural and densely settled urban life, and that state provision of sanitation reflects an effort to ameliorate living standards and life expectancies, even if very unevenly distributed along class lines. The key political issue at stake remains one of expanding *access* to sanitation, and in turn better health, with most of the rural and urban poor cast as deprived victims.

Invisible in narratives framed in terms of expanding, insufficient or denied access to sanitation are critical facets of the complex politics of 'waste' in South Asia – facets that only become visible when matters of ecology and production are centrally considered. Firstly, liquid and solid organic 'waste' are far from valueless disposables in agrarian contexts. Organic waste has tremendous productive value, particularly in uplands that do not receive seasonal inundations of water and fertilising silt, and particularly in the period before the mid-20th century when chemical fertilisers were introduced. Because the intensive cultivation of certain cash crops (like rice and sugar cane) require large inputs of irrigation and fertiliser to be profitably grown, the purposeful collection and use of 'waste' has long been fundamental to the expansion of commercial agriculture. Secondly, as agricultural producers apply large quantities of manure on irrigated fields around their settlements to produce for the market, they cultivate not only lucrative crops but also unsanitary conditions – in effect producing the very need for sanitation. The small-scale peasants, tenants and labourers who perform most of the physical labour required to cultivate cash produce are also the ones who bear the greatest disease costs of unsanitary working and living conditions. Much more, then, is at stake in the politics of sanitation than colonial and postcolonial narratives of access allow.

In an effort to develop a more comprehensive understanding of the history of sanitation in agrarian contexts, this chapter builds upon insights from the field of political ecology to elucidate complex struggles over organic 'waste' in the Punjab region during its commercial boom and integration into global capitalist markets under British colonial rule.[3] A political ecological approach is especially helpful because it re-conceptualises politics as struggles for control of resources that

are defined and ascribed value by particular social groups in particular ecological contexts. This definition of politics, in turn, opens up the important possibility of writing agrarian histories of sanitation that are not only inclusive of – but fundamentally reshaped by – a recognition of 'waste' as a resource with market value, and ensuing social struggles over different sanitary approaches to controlling the disease costs associated with its collection, storage, distribution and use in commercial agriculture.

Specifically, this chapter explores how small-scale cultivators in the semi-arid Punjab region during the 1880s and 1890s actively confronted the increasingly unhealthy conditions that accompanied their work to produce heavily manured crops for consumers located at a significant social and/or spatial distance from themselves and bearing little to none of the disease costs of intensive commercial production. These peasant and tenant farmers fought quite purposefully for what might be called, to borrow and extend Paul Richards' and his colleagues' term, an 'anti-commodity' approach to sanitation – that is, one grounded not in consumers' imperatives, but in producers' purposeful efforts to cultivate crops in ways that ensure their collective health and well-being.[4] Their principal strategy was to petition the government to restrict or to prohibit the production of the most input-demanding and disease-causing cash crops and, additionally, to adjust land revenue taxation so as to make such cropping strategies fiscally possible for small-scale cultivators. They also fought to retain their direct access to, and control over, the storage, distribution and use of the organic human and animal 'waste' essential for the successful cultivation of irrigated crops.

Such cultivators, however, found themselves squarely at odds with colonial land revenue officials, landlords and merchants over the relative desirability and efficacy of this approach to sanitation. Affluent merchants and large landlords instead favoured what might be called a 'commodity approach' – one that entailed redistributing local and provincial state tax revenues derived from commercial activities for the purposes of constructing conservancy, sewerage and drainage works so as to best protect their own health and, crucially, to enable their monopolisation of valuable 'waste' for the further expansion and intensification of commercial cultivation for global markets. At the heart of this colonial-era struggle lay competing class interests with regards to the creation of the market as a global capitalist institution and particularly the sanitary approach that states should adopt to mitigate the disease costs of commercial production.

Cultivating an unsanitary region

Today the Punjab, partitioned between India and Pakistan, is considered South Asia's 'wheat bowl' and is also a leading producer of rice, cotton, tobacco, sugar cane, fruits and vegetables for consumers around the world. Yet the region's tremendous commercial productivity is a relatively recent historical development. It was only under British rule during the late 19th and early 20th centuries that the region emerged as one of the most agriculturally productive regions in the world – as well as one of the most unsanitary and deadly.

The Punjab is an enormous semi-arid alluvial plain watered by five rivers (*panj*–five; *ab*–water) that flow from the Himalayas in the north-east towards the increasingly arid south-west.[5] Before the 13th century, settled agriculture was confined to the inundated riverbanks of the region's five rivers and a narrow stretch of heavily rainfed, sub-montane territory lying along the foothills of the Himalayas in the north and north-east. Most of the region consisted of uncultivated lands in the *doabs* (land between the rivers) where nomadic pastoralists and their herds of camels, goats and cattle predominated. This picture changed as pastoralists adopted Persian wheel and *charas* (leather bucket) well irrigation technologies around the 12th to 13th centuries, and subsequently as rulers of the Delhi Sultanate, Mughal and Sikh empires invested in the construction of large irrigation canals as well.[6] In the process, nomadic pastoralists gradually settled down to practise agriculture. One group – low-status cattle herders called *Jats* who migrated into south-eastern Punjab from Sind over the course of the 7th through 11th centuries – ultimately became the dominant peasant caste in the region.

Gradually, these *Jats* and other peasant groups also began to practise double-cropping – farming for both the region's monsoon-fed *kharif* (autumn) and *rabi* (spring) harvests – and to grow a wide range of cash crops for the market, including wheat, rice, cotton, maize and sugar cane.[7] By the 17th and 18th centuries, a relatively densely settled and commercialised area of agricultural production and trade had spread across much of the central, eastern and northern portions of the region.[8] In addition to wheat, rice, cotton, indigo, maize and sugar cane were prominent in the well- and canal-irrigation portions of the region.[9] Still, much of the region, particularly in the south and the west, remained arid lands where nomadic pastoralism predominated.

However, when the British conquered and annexed the Punjab to their expanding capitalist empire in 1848, commercial production

expanded and intensified dramatically. With the goal of increasing their collection of land revenue and the production of cash crops demanded by British industries and consumers, the British invested in re-modelling and extending the largest and most important perennial canal in the region: the Western Yamuna canal, situated in the south-east and originally built by Firoz Shah Tughluq in the 14th century and extended by Akbar in the 16th century.[10] Then, in the 1870s, the colonial state began to build an unprecedented network of canals designed to transform uncultivated 'waste' lands into areas of intensive commercial cultivation.[11] The agricultural frontiers in the arid south-eastern and especially the western plains – where perennially irrigated 'canal colonies' were established – rapidly transformed and closed in the decades that followed. As of 1927, 8.5 million acres had been added to the total cultivable area of Punjab.[12] Fed by these new canals, commercial wheat became the principal spring crop in the region, surpassing the staple food crops of barley and gram, while cotton, sugar cane, rice and maize assumed a growing percentage of the autumn harvest at the expense of staple food and fodder crops like barley, millet and gram.[13] By the 1920s, roughly one-tenth of British India's cotton and a third of its wheat crops were produced in Punjab.[14]

This tremendous expansion and intensification of commercial production over the course of a few decades significantly transformed the region's disease ecology.[15] For one, the cultivation of heavily irrigated cash crops like sugar cane and rice caused a significant rise in the subsoil water table level over time. The banks of canals, as those of raised rail and roadways, also blocked natural drainage flows that ran from north-east to south-west.[16] Consequently, when the summer monsoon arrived each July and August in irrigated tracts, the rainfall collected and pooled rather than being absorbed into the soil. Large *jhils* (stagnant shallow ponds) became a regular feature of the region's autumn landscape. Such waterlogged lands not only led to problems with salination and soil infertility but, coupled with the proliferation of wells, tanks and canals, provided a greatly expanded range of habitats for species of anopheles mosquitoes that were effective transmitters of malaria-causing plasmodium parasites to breed.[17] Reflecting this, district and provincial sanitary officials provided numerous accounts of how intensive canal irrigation was correlated with a rise in the incidence of high spleen counts, jaundice and intermittent fever in surrounding tracts. As early as the 1870s, for instance, A. C. C. DeRenzy, Punjab's Sanitary Commissioner, wrote with respect to

the sudden emergence of serious illness in the south-eastern district of Rohtak:

> The Rohtak district consists of lands of two entirely different classes. The one dry upland where the population is sparse, and where the cultivation is carried on by well irrigation. In some portions of this tract the water is at such a distance from the surface that the cultivation is entirely dependent on rain-fall, and there is either no cold weather crop at all or else a very scanty one. The other class of land is watered profusely by the Western Jumna Canal. It is densely populated, bears most luxuriant crops in winter and summer, the subsoil water level is very close to the surface, in some places not more than two feet below it. In the former tract the people are healthy and have a good colour, fine broad well-formed chests and stout limbs, in the latter they have a semi-jaundiced look and are a puny feeble race.[18]

By the late 19th century, malaria was endemic throughout the commercialised and intensively irrigated sub-regions of Punjab and ranked as the region's leading cause of death.[19]

The practice of fertilising also produced significant changes in the region's health environment.[20] Absent the deposition of rich silt that accompanied seasonal inundations along the banks of rivers, the intensive cultivation of irrigated crops required copious amounts of fertiliser to be applied to the soil. However, the ongoing shrinkage of pasture and the associated decline of nomadic pastoralism in Punjab meant that there was a dwindling population of livestock available to provide direct manuring to fields. Consequently, excrement was an increasingly precious resource, and one that itself had to be carefully cultivated. At night, cattle and buffalo were deliberately housed within living quarters so that their accumulated dung could be stored, often along with the refuse of humans, in heaps for future use as fertiliser or fuel.[21] The presence of large accumulations of human and animal waste in and near areas of settlement meant, however, that bacteria, viruses and parasites could easily drain into drinking and bathing water supplies. In addition to problems with subsoil seepage from heavily manured fields into wells, monsoon rains washed the outer layers of manure heaps into drinking water supplies.[22] The most common and serious consequences were frequent epidemics of cholera, dysentery and diarrhoea, although polluted water was also a significant cause of skin, eye and postpartum uterine infections. If such 'superficial' infections spread to the bloodstream, they were frequently lethal. Both internal and external infections, then,

posed significant threats to Punjabis' health during this period, and diarrhoeal disease and dysentery, in particular, became a leading cause of death.[23]

Because those who physically laboured to cultivate cash crops – be they small-scale peasants, tenant cultivators or landless labourers – were the most directly exposed to unsanitary conditions in their daily work and living, they were also the most vulnerable to embodying the disease costs of commercial agricultural production. Additionally, as they engaged in the intensive cultivation of cash crops rather than food staples, they became increasingly dependent upon the market for their own nourishment. In turn, during times of high food prices, they were vulnerable to experiencing levels of hunger and malnutrition that reduced their bodily resistance to infection. Significantly, from the 1880s through the First World War wheat and rice consistently sold at prices in the Punjab that were beyond the means of all but affluent landlords, merchants and professionals, and serious famines frequently struck the region, especially around the turn of the 20th century.[24] Reflecting this, overall mortality (and not simply morbidity) rates in the Punjab soared during the late 19th and early 20th centuries to become the highest in British India.[25] Far from 'natural', the deadly unsanitary conditions that characterised colonial Punjab were directly produced and embodied by Punjabis as they expanded and intensified their cultivation of cash crops for increasingly global markets.

Struggles over sanitation practice

Growing crops for the market was not simply a 'rational' economic pursuit of profit that had unintended, deleterious health consequences which, once realised, would lead to a change in behaviour: commercial production was powerfully shaped by imperial states' extractive systems of land revenue. Struggles over how best to respond to the unsanitary conditions caused by commercial agriculture, then, centrally turned on debates among different classes over the role that the state should play in regulating production for the market and overseeing the redistribution of commercial wealth.

Following the precedent set by previous empires in the Punjab, the British adopted systems of land rights and land revenue that were designed to promote commercial production in order to maximise the state's collection of taxes. Rights to land were directly tied to the timely payment of land revenue. Tax rates were set in cash, such that landholders were effectively compelled to grow crops that they could sell

on the market.[26] Additionally, taxes were set as a fixed rate at each harvest season. Certainly, the British were considerably less willing than their imperial predecessors to grant revenue remissions in the event of drought or flooding – both of which were not uncommon given Punjab's north-western 'fickle' location within the larger Indian Ocean monsoon system. As a result, a prolonged series of unlucky events – such as the repeated droughts and harvest failures that occurred at the end of the 19th century – drove many peasants into such debt that they lost their land to *banias* (merchant-moneylenders) or landlords and joined the ranks of the growing population of landless tenants.[27] In 1860, peasant landholders cultivated an estimated two-thirds of the land in Punjab. By 1900, this was the case with less than half the land and over 40 per cent was cultivated by tenants-at-will who worked for large landlords.[28]

Such landlordism and tenancy became especially predominant in the canal colonies of the western plains, and to a lesser degree in the south-eastern plains. In these sub-regions, leases usually dictated the lucrative (and heavily irrigated and manured) crops that tenants were expected to grow, and some additionally included clauses that required their tenants to conserve all available refuse produced by their own family and livestock for use in manuring the leased lands.[29] As occupancy rights deteriorated over time, by the late 19th century the majority served as tenants-at-will on annual leases and were responsible for remitting an average of over half of their produce as rent; as of 1890, in-kind rents typically ranged from between a third to three-quarters of the total produce they harvested. By the end of the 19th century, approximately a third of tenants were also responsible for paying their rent as a fixed price in cash, rather than in kind, as well.[30] Consequently, tenants had very little room to do anything but intensively cultivate labour-intensive commercial crops. In the western canal colonies, tenants primarily grew intensively irrigated and manured wheat as their spring crop and cotton as their autumn crop, both for export to US and European consumers.[31]

Peasants who managed to retain ownership of their own lands, on the other hand, did possess a limited ability to respond to the unsanitary costs of commercial production by working to minimise their cultivation of the unhealthiest of the cash crops. By the early 20th century, for instance, landholding peasants in central Punjab typically used their wells to produce wheat for export as their primary spring crop and cultivated gram (rather than the heavily irrigated and manured cotton, tobacco, sugar cane and rice) for sale as food and fodder to tenant farmers in the western canal colonies as their primary autumn crop. Peasants

in the south-east, who worked rather arid lands, largely cultivated relatively un-irrigated and un-manured millet and barley for the spring harvest, which they consumed themselves and sold for regional consumption. Their autumn harvest crop was, like their counterparts to the north, gram, which they both consumed and exported to the western canal colonies. Peasants in both sub-regions also managed to mitigate the deleterious consequences of commercial production and to hold onto their position as petty commodity producers by engaging in a range of ancillary activities, including military service and labour migration abroad in South East Asia, East Africa, the Caribbean and California, both of which activities brought remittances back to peasant families.[32]

Beginning in the 1880s and 1890s, when the health costs of intensively irrigated and manured cash crop cultivation were clearly apparent, peasants also began to petition district-level officials in the colonial government to restrict or outright prohibit the cultivation of the crops that were directly implicated in rising rates of fever and unsanitary conditions.[33] Most petitioners were cultivators located in areas served by newly opened or refurbished perennial irrigation canals in the south-eastern and western plains. Tellingly, their petitions received a sympathetic and proactive response from many district administrators, who knew, too, of this causal relationship. For instance, in 1890 A. Anderson, the Deputy Commissioner of Hissar, unequivocally backed petitioners in villages located along the Hansi branch of the Western Jumna canal in the south-eastern plains in their demands for a rice prohibition. As he argued to his superiors:

> I now beg to make the definite proposal that from the commencement of the agricultural year 1891–2 the irrigation of rice be prohibited in this district [...]. It is admitted on all hands that the rice irrigation carried to excess is the cause of the water-logged state of the villages united with the fact that all the canal is at the bottom of the tract and drainage is towards it and not from it. The people themselves have admitted that rice irrigation is the cause, and whole villages have recently presented petitions to me to get it stopped [...]. I think the time has come to make the proposal to Government.[34]

Similarly, Colonel L. J. H. Grey, Commissioner and Superintendent of Delhi Division, strongly endorsed petitions from cultivators along the highly feverish Western Yamuna canal in his administrative circle, opining that '[i]f Government could be induced to refuse irrigation to rice and sugarcane in the villages you mention, men, cattle, and

land would soon recover'.[35] Administrators additionally supported petitioners' assertions that government regulation was essential because, on account of drainage lines, the biggest victims of rice cultivation were not even necessarily the ones who were engaged in such practices themselves. As explained by a district administrator:

> The people are very generally in favour of the stoppage of rice irrigation, and many have expressed their desire to stop it, but they object to do so unless the prohibition is general, and this objection is most natural. Little good will result from the partial cessation of excessive irrigation. The drainage from the fields, where the cultivators have persisted in growing rice, will injure all the neighbouring fields, and matters will remain much as present. This is eminently a case where Government should step in, and by general prohibition assist the party that is willing to stop the practice. I believe that such a prohibition will be accepted without demur, and even if some proprietors should object, we can say that no one has any legal claim to receive water for rice irrigation, especially to the damage of his neighbours, and the evil justifies the interference with existing practice.[36]

In addition to actively supporting petitioners in their calls for crop prohibitions in unhealthy tracts, district administrators suggested other ways that the government could regulate commercial cultivation through financial disincentives and alterations to the existing land revenue structure. Specifically, they called for higher occupiers' rates and/or water rates for irrigating cash crops, especially cotton, rice and sugar cane.[37] They also crucially argued for a reassessment of the land revenue rates and structures that effectively compelled many cultivators to grow commercial crops regardless of the environmental health consequences. Indeed, any measure to prohibit or otherwise discourage the cultivation of rice and sugar cane along the Western Yamuna canal was meaningless – and would ultimately prove disastrous for those that it was meant to assist – unless cultivators were simultaneously freed from meeting the current revenue rates that had been assessed on their lands. As Anderson from Hissar explained,

> Until the new settlement such a proposal [to prohibit the cultivation of rice] could not have been entertained, as the land revenue includes a fixed sum to be paid by the proprietors on account of irrigation, and any radical interference with irrigation, such as the proposal implies,

> would have amounted to a breach of contract, unless it had remitted a considerable part of the canal revenue.[38]

Such petitions and efforts to regulate commercial cultivation encountered staunch opposition, however. Among the primary opponents of adopting such regulatory measures and modifying existing redistributive ones were landlords, merchants, and canal and railway investors, for all of whom the disease costs of commercial crop cultivation, as primarily borne by tenants and peasants, did not outweigh the personal profits it afforded them. These groups found significant allies among imperial and provincial revenue administrators and engineers who argued that because revenue rates had already been assessed on the assumption that cash crops would be grown on irrigated lands, both the government and cultivators working irrigated tracts would suffer significant financial losses if crops like rice and sugar cane were prohibited or even restricted. As Colonel F. J. Home, Chief Engineer of Irrigation Works, wrote:

> [a]s regards the more comprehensive proposal to prohibit the cultivation of rice and sugarcane . . . from a canal revenue point of view their prohibition would be simply disastrous, besides which it would be most unpopular, would raise a terrible outcry amongst the Jats [dominant peasant caste], and would, I should say, completely upset all relations between zamindars [landlords] and tenants. Such a proposal cannot, I think, be seriously entertained for a moment.[39]

The Superintending Engineer of the Cis-Sutlej irrigation circle similarly opined that:

> [. . .] I consider that such a prohibition would be simply disastrous. The income derived from rice and sugarcane in the above districts is the sheer anchor of the canal revenue, which can be relied on almost as confidently in wet years as in dry, and without it the canal would in wet years cease to pay its way.[40]

Resisting the arguments in favour of government regulation of production, these groups – who sat on and controlled the region's district and municipal boards – fought to use municipal, district and provincial tax funds to promote and fund 'sanitising' the region's landscape instead. The forms of sanitation that they called for included drains, water works, sewage systems and conservancy services that would simultaneously protect their own land and health, while at the same time ensuring

the further expansion and intensification of profitable commercial production. Of these works, drains were the most widely implemented during the late 19th century, and were carefully engineered to remove the 'excess' water generated by growing heavily irrigated crops so as to lower the subsoil water level and eliminate problems with run-off, flooding and salination that interfered with cultivation. Crucially, however, the region's drains were also designed by colonial engineers so as not to 'over-drain' the land to the extent that the cultivation of commercial crops would be compromised. In practice, this meant that drains were proposed and installed very gradually, and were constructed to have a carrying capacity that was calculated to suffice for years of little to moderate, rather than heavy, rainfall. As L. M. Jacob, Under-Secretary of the Irrigation branch of the Public Works Department, explained:

> Drainages that would carry off water as quickly as the zamindars [landlords] could wish in a year like 1894 would be too effective for years like 1891, 1892 and 1893, and would overdrain the tract, besides necessitating an expenditure that would be almost prohibitive. It is desirable that the water should not be carried off too quickly; otherwise barani [effectively rice] crops would be much restricted [...].[41]

Drains, like water and sewage works, were also purposefully designed to re-direct the water that they collected for use in further extending the cultivation of irrigated cash crops. Typically, proposals for new drains, as well as more costly water and sewage works, were financially and physically bundled with schemes to ensure not only the continuation, but the further expansion and intensification, of commercial cultivation. All of the region's water work facilities, for instance, were built as part of projects to extend existing irrigation works – in effect taking one or more cuts off of newly constructed canals, or in the case of smaller towns and villages, from wells. And, as with drains, concerns about the health costs to cultivators proved far secondary to those of protecting merchants' and landlords' access to, and command of, the water needed for commercial cultivation and the generation of profits. For instance, with respect to plans for a new water works scheme in Hansi in the south-east in 1880:

> The Deputy Commissioner does not appear to be very sanguine as regards the benefits the proposed scheme is likely to secure in improving the sanitary condition of the town; and in this I concur. The new

> scheme is simply an irrigation channel which will bring new land under canal irrigation and at the same time feed the bathing tanks round the town. The only difference will be that the old mill stream which now feeds these tanks will be closed. It will not be filled up, as it will be too expensive, so that it will always remain as a sort of open drain full of stagnant water after rain, or should any of the tanks overflow.[42]

Sewage works like those at the region's major urban centres of Amritsar and Lahore were similarly engineered and constructed so as to serve a very select segment of the cities' population, while guaranteeing an ample supply of valuable fertiliser-cum-irrigation water to nearby zamindari landowners.[43] As was tellingly observed from Amritsar in 1894:

> [...] the use of sewage in the vicinity and along the line of the main sewer is general, every drop of sewage being greedily sought for in season by zamindars [landlords]. The sewage of this city is liquefied by canal water, of which a minimum supply of 50 million gallons per annum is got on payment. The municipality then permits zamindars, whose lands are situated along the line of the sewer, to raise sewage on to their lands by means of jhallars, for which they pay a revenue of Rs 5 per bigha, according as it is situated near to, or far from, the city. Religious scruples or popular prejudices have, among landowners and tenants round Amritsar, been long explored. At one time these did exist, but ceased to when the people discovered the pecuniary advantages to be derived from the use of manure, whether solid or liquid.[44]

Even sewers built on a considerably smaller scale were designed with an eye towards extending commercial cultivation through the distribution of organic waste, such as at the town of Ludhiana in 1881, where

> [...] it appears practicable to carry the entire sewage and drainage of the town by one outfall sewer along the low ground behind the jail on to the open country in the direction of Samrala, where the sewage could be utilised in irrigation of fields more extensively [...].[45]

The impetus to control the storage and distribution of valuable manure inputs for the purposes of extending and intensifying cash crop production also drove efforts to develop municipal conservancy establishments

during the late 19th and early 20th centuries. Throughout Punjab, municipal and district boards – on which landlords and merchants principally sat – developed 'self-paying' systems in which staffs of sweepers were hired to collect refuse and to store it in *gobar* (manure) godowns positioned outside the boundaries of the city or town. The municipal and district boards, with a complete monopoly on this highly valuable resource, then sold the refuse off as fertiliser to nearby landowners – many the very same affluent landlords who sat on the municipal boards themselves – at inexpensive rates, using, in turn, the proceeds to offset the costs of running the conservancy establishment.[46] As an official explained,

> [. . .] [t]he sweepings and house garbage removed by those scavengers have almost everywhere a greater or less market value, either for use on the fields as manure or as fuel for brick kilns; and it is of the first importance that strict supervision should be exercised over the collection of filth or sorts in manure depots, or on mud wall enclosures, as it is a very valuable source of income to Municipal funds, and aids in rendering the scavenger staff more or less, or perhaps entirely, self-supporting.[47]

In order to make large quantities of manure available at cheap rates to prominent landlords, several municipal boards, including those of large cities like Amritsar, additionally experimented with leasing the job of collecting, storing and selling waste to private contractors who paid a fixed sum for the right to collect and sell the municipality's waste.[48] The particular sanitary works, services and practices that gained prominence in Punjab during the 1880s and 1890s were, thus, primarily driven by the interests of affluent landowners who sought to monopolise control of the water and manure needed for lucrative commercial cultivation for their own gain.

Resisting sanitation?

An appreciation of the complexity of sanitation politics and possibilities in colonial Punjab helps to explain why the primary 'opponents' of the colonial state's sanitising regime were peasants, tenants and (within the government itself) district level officials with a relatively intimate level of local knowledge of the region's disease ecology, and why their opposition frequently went so far as to thwart the working and ensure the closure of sanitary works.

Far from ignorant of the value of hygiene, or unconcerned about the region's growing unsanitary conditions, these groups simply held that the sanitation schemes being implemented entirely failed to address – and even served to worsen – the problems at hand. As the Deputy Commissioner of Hissar, A. Anderson, summarised with some exasperation in 1890:

> [t]he District Board is ready to do all it can to remedy the evil [waterlogging and fever] by expenditure on drainage . . . . But these measures are evidently not sufficient to remedy the evil, and it is for Government to do its part by prohibiting rice-irrigation.[49]

Local officials also pointed out that sanitary works like drains were principally implemented so as not to upset the commercial and financial interests of elites by instituting crop prohibitions, not because of their public health value; as one administrator observed:

> [. . .] when the spring-level has once risen over a large tract of country, its reduction to any great extent can only be hoped for by more drastic measures than improvement of alignments and surface drainage, though these will of course be very beneficial in removing swamps and enabling the soil to be ploughed up and aerated. Large reductions in the area irrigated by the canal, and the consequent enforcement of the use of wells for irrigation purposes, will probably be the only means of permanently lowering the spring level; but Sir James Lyall is upset by the land revenue settlements and agricultural operations generally, and is content to await the results of the measures which have already been adopted, aided by other and more gradual steps to reduce the quantity of canal water which is poured into the ground, such as the extension of irrigation to drier tract [. . .].[50]

While engineers, whose careers were tied to the construction of public works, tended to be strong advocates of the emerging colonial sanitising regime, some, such as the Executive Engineer of the Western Jumna canal of Karnal division, even freely conceded that '[t]he cause [of a ten mile stretch of waterlogging] is excessive rice irrigation. I would promise that if this were done away with or restricted there would be no need for drainage.'[51]

By the 1890s, considerable conflicts also erupted in Punjab over the implementation and use of sanitary works and services in practice –

frequently to the extent that the working of sanitation measures was compromised or forced to cease operation altogether. A common source of conflict was that individual families, neighbourhoods and villages were required to pay for their own connections to government-sponsored drains (and water and sewage works) for, as T. Higham, Chief Engineer of Irrigation Works Punjab, explained, '[...] it is not our duty to connect every land-locked local swamp with the drains which we have provided. [...] we cannot make subsidiary drains to every village tank.'[52]

This meant that only those with sufficient means could be on the dispensing rather than the receiving end of unwanted polluted drainage during times of excess rains and, conversely, on the controlling end during times of too little rainfall. Drainage works, however, ultimately had to dump or restrict the flow of water somewhere, and that somewhere – fields and villages located at a lower elevation along the drainage line – could be quite adversely affected either way. Consequently, complaints about growing sickness and soil infertility due to flooding, waterlogging and salination that were *caused,* not alleviated, by drains became extremely common. Reflecting this, administrators struggled to effectively administer the working of drains in the flooded tracts along the Western Jumna canal; as one explained the challenge:

> [...] it would be advisable to place an officer of the Irrigation Department on special duty to consider how the whole tract of country can be most efficiently drained. The question is one full of difficulties, since any measure taken to carry off flood water from one village too often results, as in the cases of Didwari and Hartari quoted in my letter to the Executive Engineer, in the discharge of a largely increased volume into the lands of villages lower down on the drainage lines. So in the case of districts, Karnal will simply benefit at the expense of Delhi, and Rohtak by any large drainage scheme, unless sufficient outlets are provided for the mouths of the drains in the latter two districts. It is clear, then, that the matter should be considered not by separate Committees, but by a single authority.[53]

Contention over drainage outflow and loss also occurred within single villages given cultivators' differing positions with respect to drainage lines. In Ahar village along the Western Jumna canal, for instance, '[...] the villagers were not agreed, and it was sloley [sic] owing to their own differences that further measures for the drainage of the village were not taken'.[54] Drains and sewers, as well as water works, naturally also

generated significant opposition from among those who lived in villages or owned fields that lay in the designated path of the works and were slated for 'appropriation' and 'removal'.[55]

Small-scale peasants and tenant cultivators also objected strongly to and sought to undermine the establishment of sanitation in the form of conservancy services, and not for any lack of understanding of disease causation and hygiene. Rather, they objected because conservancy services adversely affected their personal access to needed manure inputs.[56] Under the colonial 'sanitising regime', small-scale cultivators were literally on the losing end of both sticks, given that they had unequal means at their disposal to purchase or otherwise secure the waste that had been confiscated and stored in municipal, town and village *gobar* (manure) godowns for use as fertiliser. Colonial distribution practices favoured the absentee landlords who sat on municipal boards and/or exercised considerable influence over their appointed members. Many municipal committee members even received manure collected and guarded at government expense free of any charge; as reported from Wazirabad:

> [s]ome of the members of the municipal Committee, Sanitary Commissioner understands, get this manure free of cost for their fields around the town to a distance of 2 or 3 miles .... These guardians of the municipal interest should not be allowed to betray their trusts for the sake of personal advantage at the cost of their fellow-townsmen.[57]

Similarly, at Leiah town in Dera Ismail Khan district, it was reported that:

> [t]he municipality does not attempt to realise anything by the sale of town refuse. It appears to fall into the hands of a few persons who own fields about the town. The municipal sweepers, it appears, are paid privately by some of these to convey the stuff to their lands as manure ... From what the Sanitary Commissioner gathered from the remarks of different persons and some members of the municipal committee, the sweepers are more engaged in manuring the fields of land-owners about the town than in attending to the thorough conservancy of its streets.[58]

The multiple forms of conflict over who had the right to collect and distribute manure from *gobar* godowns – conflicts inaccurately glossed as between progressive urban modernisers and resistant peasant

traditionalists – not infrequently led to the outright dissolution of conservancy establishments, especially in villages and small towns where sanitary measures could not be legally enforced.[59] Additionally, sweepers protested both their loss of customary rights to sell the product of their labour directly to cultivators, and periodic efforts to hold or reduce their wages so as to keep the price of manure low for consumers.[60]

The district, medical and sanitary officials who generally supported peasant and tenant agitation for crop regulation also, importantly, won authorisation in the 1890s from the Government of India to legally prohibit the cultivation of particular crops within the immediate periphery of municipal areas and cantonments '[...] where there is a good sanitary and medical evidence that its use or abuse involves danger to the health of the soldiers or citizens'.[61]

In select cases, when new canal works were opened, such as the Sirsa branch of the Western Yamuna canal, particularly damaging crops like rice and sugar cane were prohibited from the start. Yet, these instances were exceptions rather than the norm. The larger trajectory in colonial governance was one in which the interests of affluent merchants and landlords in maximising commercial production for global markets, and in increasing their control over valuable water and manure inputs towards that end, not only took precedence, but were legitimised and even further enabled by sanitation.

Conclusion

By adopting a political ecological approach, this chapter opens up a new way of understanding histories of sanitation in colonial agrarian contexts – one in which the social construction of 'waste' as a resource ascribed with value, and ensuing struggles to control the health consequences associated with its distribution and use, lie at the heart. Indeed, the 'waste' politics of late 19th-century Punjab reflected larger, colonial-era social struggles over the creation of markets as global institutions that connected producers and consumers located at considerable social and spatial removes from one another, and the role that the state should play in regulating the health consequences of commercial production. It was in this global context that a 'commodity' approach to sanitation technologies and practices emerged as central to colonial (and later postcolonial national) states' development regimes. Affluent merchants and large landlords strongly supported the redistribution of local and provincial tax revenues for the purposes of building conservancy, sewerage and drainage works that were designed to protect

(largely urban and elite) consumers' health and, crucially, to enable their monopolisation of valuable 'waste' for the purposes of further expanding and intensifying commercial production.

It is this urban consumerist approach to sanitation – and not the anti-commodity sanitary approaches fought for by peasant and tenant producers – that has come to dominate the subject matter of sanitation histories and contemporary studies. To the extent that producers' anti-commodity approaches feature at all, they are ironically discussed as instances of resistance to sanitation. Certainly, the proliferation of inorganic forms of agricultural inputs in recent decades has added to the complexity of waste politics in both Pakistani and Indian Punjab. Yet, the extremely limited – and, under IMF-imposed structural adjustment reforms, steadily weakening – state regulation of production for global markets is critical for explaining why 'sanitation for all' remains such a perpetually invoked and elusive development goal – and equally why it is crucial for historians to rewrite sanitary histories to include producers' anti-commodity perspectives.

Notes

1. See, for instance, the narrative underpinning a study of Unicef's collaboration with the Government of India to improve rural water supplies: M. Black and R. Talbot (2005) *Water: A Matter of Life and Health: Water Supply and Sanitation in Village India* (New Delhi: Oxford University Press). See also the Asian Development Bank's (2009) *India's Sanitation for All: How to Make It Happen* (Manila: Asian Development Bank).
2. For some representative publications, see S. Chaplin (2011) *The Politics of Sanitation in India: Cities, Services and the State* (Hyderabad: Orient Blackswan); M. Mann (2007) 'Delhi's belly: On the management of water, sewage and excreta in a changing urban environment during the nineteenth century' *Studies in History,* 23 (1), pp. 1–31; V. Prashad (2001) 'The technology of sanitation in colonial India' *Modern Asian Studies*, 35 (1), pp. 113–55; M. Harrison (1994) *Public Health in British India: Anglo-India Preventive Medicine 1859–1914* (Cambridge: Cambridge University Press); D. Arnold (1993) *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India* (Berkeley: University of California Press); R. Ramasubban (1982) *Public Health and Medical Research in India: Their Origins under the Impact of British Colonial Policy* (Stockholm: Swedish Agency for Research Cooperation with Developing Countries).
3. A. Agrawal (2005) *Environmentality: Technologies of Government and the Making of Subjects* (Durham, NC and London: Duke University Press, 2005); A. Agrawal and K. Sivaramakrishnan (eds) (2000) *Agrarian Environments: Resources, Representation, and Rule in India* (Durham, NC and London: Duke University Press); K. Sivaramakrishnan and A. Agrawal (2003) *Regional Modernities: The Cultural Politics of Development in India* (New Delhi: Oxford

University Press); Paul Robbins (2004) *Political Ecology: A Critical Introduction* (Oxford: Blackwell Publishing); R. Peet and M. J. Watts (eds) (1996) *Liberation Ecologies: Environment, Development, Social Movements* (London: Routledge).

4. B. Mouser, E. Nuijten, F. Okry and P. Richards (2015) 'Commodity and anti-commodity: Linked histories of slavery, emancipation and red and white rice at Sierra Leone' in F. Bray, P. Coclanis, E. Fields-Black and D. Schaeffer (eds), *Global Rice: New Histories and Global Networks* (Cambridge: Cambridge University Press), pp. 138–62.
5. J. S. Grewal (2004) 'Historical geography of the Punjab' *Journal of Punjab Studies,* 11 (1), 3–6.
6. C. Singh (2005) 'Well-irrigation and socio-economic change in medieval Punjab' in R. Grewal and S. Pall (eds), *Precolonial and Colonial Punjab: Society, Economics, Politics, and Culture. Essays in Honor of Indu Banga* (Delhi: Manohar); C. Singh (1985) 'Well-irrigation methods in medieval Panjab: The Persian-wheel reconsidered' *Indian Economic and Social History Review,* 22 (1), 73–87; I. H. Siddiqui (1986) 'Water works and irrigation systems in India during pre-Mughal times' *Journal of Economic and Social History of the Orient,* 29 (1), 53–4.
7. Grewal, 'Historical geography of the Punjab', pp. 4–6; C. Singh (1991) *Region and Empire: Panjab in the Seventeenth Century* (Delhi: Oxford University Press), pp. 107–8 and 213–17.
8. Grewal, 'Historical geography of the Punjab', p. 6; Singh, *Region and Empire,* pp. 98–102.
9. Ibid.
10. Government of India (1908) *Imperial Gazetteer of India, Provincial Series,* vol. 1: *Punjab* (New Delhi: Atlantic Publishers and Distributors, reprinted 1991), pp. 202–14.
11. I. Ali (1988) *The Punjab Under Imperialism, 1885–1947* (Princeton, NJ: Princeton University Press).
12. R. G. Fox (1985) *Lions of the Punjab: Culture in the Making* (Berkeley: University of California Press), pp. 35, 55.
13. Government of the Punjab (1894) *Provincial Report on the Material Conditions of the People, 1881–1891* (Simla: Central Printing Office), p. 6.
14. Fox, *Lions of the Punjab,* pp. 35, 55.
15. What follows is a brief sketch of this process. For a more detailed analysis, see L. Minsky (2015) 'Of health and harvests: Seasonal mortality and commercial rice cultivation in the Punjab and Bengal regions of South Asia' in F. Bray, P. Coclanis, E. Fields-Black and D. Schaeffer (eds), *Global Rice*, pp. 245–74.
16. I. Agnihotri (1996) 'Ecology, land use and colonisation: The canal colonies of Punjab' *Indian Economic and Social History Review*, 33 (1), 37–58; I. Klein (2001) 'Development and death: reinterpreting malaria, economics and ecology in British India' *Indian Economic and Social History Review*, 38 (2), 147–79; E. Whitcombe (1972) *Agrarian Conditions in Northern India: The United Provinces Under British Rule, 1860–1900* (Berkeley: University of California Press).
17. Agnihotri, 'Ecology, land use and colonization', pp. 37–58. For some important primary sources on malaria in the Punjab, see the annual colonial sanitary reports for the Punjab as well as S. R. Christophers (1911) *Malaria in the Punjab. Scientific Memoirs by Officers of the Medical and Sanitary Departments*

of the Government of India (Calcutta: Superintendent Government Printing); C. J. Bamber (1915) *Report on Malaria in the Punjab During the Year 1914 Together with an Account of the Malaria Bureau* (Lahore: Superintendent Government Printing Punjab); Colonel H. Hendley (1916) *Report on Malaria in the Punjab During the Year 1915 Together with an Account of the Work of the Punjab Malaria Bureau* (Lahore: Superintendent Government Printing); R. C. MacWatt (1919) *Report on Malaria in the Punjab During the Year 1918 Together with an Account of the Work of the Punjab Malaria Bureau* (Lahore: Superintendent Government Printing); Clifford A. Gill (1928) *The Genesis of Epidemics and the Natural History of Disease* (London: Bailliere, Tindall and Cox), pp. 192–98, 525, and Appendix III.

18. Government of the Punjab (1874) *Report on the Sanitary Administration of the Punjab for the Year 1873* (Lahore: Mayo Press), pp. 4–5.
19. D. Das (1943) *Vital Statistics of the Punjab* (Lahore: Board of Economic Inquiry), pp. 170–2.
20. Minsky, 'Of health and harvests', pp. 257–63.
21. As one colonial sanitation report described in 1879: '[…] we have the fact of human beings herding under the same roof in the same room with their cattle during the cold weather as the ordinary rule of their lives. We find this common space entirely unprovided with any means whatever for ventilation, and […] a floor saturated with urine and other excreta, which are never removed, though added to, day by day, during the five or six months that the cattle are housed with their owners'. See Government of the Punjab, Home Department Proceedings, Medical and Sanitary (May 1879) no. 13, p. 290. For similar descriptions, see also pp. 289, 297.
22. Government of the Punjab, Home Department Proceedings, Medical and Sanitary, February 1897, no. 10, p. 52; Government of the Punjab, Home Department Proceedings, General, 13 March 1869, no. 210A, p. 12.
23. Das, *Vital Statistics of the Punjab*, pp. 15, 29; I. Klein (1994) 'Imperialism, ecology, and disease: Cholera in India, 1850–1950' *Indian Economic and Social History Review*, 31, 491–518.
24. Fox, *Lions of the Punjab*, p. 68; S. Zurbrigg (1992) 'Hunger and epidemic malaria in Punjab, 1968–1940' *Political and Economic Weekly*, 25 (January), pp. PE–6; K. Wakimura (1997) 'Famines, epidemics and mortality in Northern India, 1870–1921' in P. Robb, K. Sugihara and H. Yanagisawa (eds), *Local Agrarian Societies in Colonial India: Japanese Perspectives* (New Delhi: Manohar Press), pp. 280–310; N. Singh (1996) *Starvation and Colonialism: A Study of Famines in the Nineteenth Century British Punjab, 1858–1901* (New Delhi: National Book Organization).
25. Das, *Vital Statistics of the Punjab,* pp. 18–19.
26. M. Mukherjee (2005) *Colonizing Agriculture: The Myth of Punjab Exceptionalism* (New Delhi: Sage), pp. 1–2.
27. Fox, *Lions of the Punjab*, pp. 39–40.
28. Ibid., p. 55; Zurbrigg, 'Hunger and epidemic malaria in Punjab', pp. PE–6.
29. R. K. Seth, H. W. Emerson, F. Ilahi and E. P. Moon (1938) *An Economic Survey of Durrana Langana: A Village in the Multan District of the Punjab* (Lahore: C &M Gazette Ltd), p. 195.
30. Government of the Punjab, *Provincial Report on the Material Conditions of the People, 1881–1891*, pp. 28–9. See also N. Bhattacharya (1983) 'The logic

of tenancy cultivation: Central and south-east Punjab, 1870–1940' *Indian Economic and Social History Review,* 20 (2), pp. 121–70.
31. Fox, *Lions of the Punjab*, pp. 30–45.
32. Ibid.
33. Government of the Punjab (1891) *Report on the Sanitary Administration of the Punjab for the Year 1890* (Lahore: Civil and Military Gazette Press), pp. 4–5.
34. Government of the Punjab, Home Department Proceedings, Medical and Sanitary, December 1890, no. 6, p. 95.
35. Ibid., p. 93.
36. Ibid., p. 95.
37. Government of the Punjab, *Report on the Sanitary Administration of the Punjab for the Year 1890*, pp. 28–9; Ibid., January 1893, no. 1, p. 1.
38. Ibid., December 1890, no. 6, p. 95.
39. Ibid., p. 102.
40. Ibid., no. 6, p. 99.
41. Ibid., October 1895, no. 3, p. 141.
42. Government of the Punjab (1882) *Report on the Sanitary Administration of the Punjab for the Year 1880* (Lahore: Central Jail Press), p. 53.
43. Government of the Punjab, Home Department Proceedings, Medical and Sanitary, July 1894, no. 21, p. 134.
44. Government of the Punjab (1895) *Report on the Sanitary Administration of the Punjab for the Year 1894* (Lahore: Civil and Military Gazette Press), pp. 22–3.
45. Government of the Punjab, *Report on the Sanitary Administration of the Punjab for the Year 1880*, p. 49.
46. Ibid., pp. 105–6.
47. Government of the Punjab, *Report on the Sanitary Administration of the Punjab for the Year 1885* (Lahore: Civil and Military Gazette Press), p. 24.
48. Government of the Punjab, *Report on the Sanitary Administration of the Punjab for the Year 1880*, p. 91.
49. Government of the Punjab, Home Department Proceedings, Medical and Sanitary, December 1890, no. 6, p. 96.
50. Ibid., November 1892, no. 12, p. 109.
51. Ibid., December 1890, no. 6, p. 96.
52. Ibid., October 1895, no. 3, p. 138.
53. Ibid., July 1895, no. 4, p. 83.
54. Ibid., October 1895, no. 3, p. 139.
55. Government of the Punjab, *Report on the Sanitary Administration of the Punjab for the Year 1880*, p. 46.
56. Ibid., p. 91.
57. Ibid., pp. 95–6.
58. Ibid., p.106.
59. Ibid., p. 85.
60. Ibid., pp. 107, 112.
61. Government of the Punjab, Home Department Proceedings, Medical and Sanitary, July 1893, no. 2, p. 64.

7

East African Railways and Harbours, 1945–1960: From 'Crisis of Accumulation' to Labour Resistance

David Hyde

Introduction

Weak infrastructure, a low level of development and 'underdevelopment' generally can and does inhibit the metamorphosis of the commodity form within peripheral sites of production. Anti-commodity tendencies can also be manifest as 'the commons' refusing commodification, or as goods and resources destined for commodification but which resist the full evolution into the commodity form. This is deeply symptomatic of crisis and breakdown.

What follows is an examination of a pivotal local crisis which erupted within the spine of East Africa's transport system during late colonialism that has received little acknowledgement. The essence of the severe financial crisis which beset East African Railways and Harbours (EARH) lay in its prescribed role as the provider of cheap transportation to underwrite the profitability of Kenya's settler economy, a function that it had long struggled to sustain. The function of EARH as a state monopoly was to facilitate commodification, fulfilling the transition from 'goods' to 'commodities'. How could EARH, after years of overwork and neglect, renew its infrastructure to continue in this role of enabling local production? The chapter draws upon Marx's work in *Capital* in an attempt to address these questions.

The recurrent crises which beset capital dominate the wage bargaining process where the terms and conditions of commodification are periodically contested. The work brings into view 'labour power' as

the 'anti-commodity' *par excellence*, a living substance whose bearers simultaneously embrace and defy commodification.

The post-war primary commodities boom and its accompanying production drive to generate dollars to fund Britain's post-war reconstruction and repay debts to the United States combined with the financial and infrastructural demands of the Mau Mau Emergency to place EARH under great strain.[1] As the boom petered out after 1954, EARH was caught in a vice, between intense pressure to hold fast its already low freight charges to subsidise Kenya's troubled plantation economy,[2] and its own requirements to address severe capital depreciation brought on by the post-war export drive and the demands of the colonial war against Mau Mau. While a programme of major re-investment was required, the company's Renewals Fund was virtually depleted,[3] forcing the colonial government towards the restructuring of the state monopoly. In a desperate bid to initiate this process, EARH was faced with relinquishing its perennially low tariffs, though this threatened to reduce the competitiveness of the colony's agricultural exports still further. The company's preferred route was to go to war with its African workforce in an attempt to pass on the costs of resolving these problems through a programme of rationalisation, which was to involve wage cuts and large-scale redundancies throughout the region.

The ensuing crisis provoked fierce resistance from African railwaymen in all three colonies. The majority of Kenya's railmen stopped work in response to the Railway African Union's call for a colony-wide strike, which began on 14 November 1959. Railmen in Tanganyika and Uganda followed them into action to mark the region's only inter-territorial strike, which continued intermittently until August 1960.[4] This had an immense impact and triggered the era of strike waves which accompanied the transition to independence. While treated by union leaders as a wages struggle, the rail strike was a deeply political conflict which questioned the terms and conditions of the transition to the post colony. The deep and protracted financial crisis within EARH, the region's largest employer, is examined here to appreciate the source of this conflict. Why did the region's most privileged African workers, hitherto the most conservative and quietist, move into confrontation with their state employer?

A restoration crisis emerges

EARH was created in 1949 as a supra-national public utility when its predecessors, the Kenya and Uganda Railways and Harbours, and the

Tanganyika Railways and Ports Services, were amalgamated under the auspices of the East African High Commission. By this time, the railway network was well over 50 years old. Railway construction had begun at Mombasa in 1896 and by the turn of the century stretched far into the interior, reaching Kisumu by 1901. The original plan to take the line on to Kampala was not completed until 1931. By 1946 settler demands for transport services to serve plantation and farm production had led to the construction of branch lines to Kitale, Thomson's Falls and Rongai. These were sited to ensure that European farms and plantations were mostly located not more than 25 miles from the main line. Historically, the railway's role as the principal artery of the colonial economy was to shift vast quantities of primary products, including cotton, sisal, copper, coffee and tea, from upcountry to the coast. By the 1950s its continuing ability to fulfil this function was being undermined by serious capital depreciation and road haulage competition.

Re-investment had been neglected for years as EARH had kept its margins narrow to subsidise the profitability of settler agriculture. The state monopoly served as a handmaiden of private capital, a point spelt out in Section 21 of the East African Railways and Harbours Administration Act (1950), that the 'Administration shall be administered on business principles and, so far as is not inconsistent therewith of the principles of prudent finance, cheap transport will be provided by the Administration to assist agricultural, mining and industrial development in the Territories'.[5] The company invariably broke even on paper, with its published accounts figures showing regular, though modest, surpluses. Ritual savings were set aside to the 'Renewals Fund', though by the turn of the 1950s an approaching restoration crisis placed unbearable demands on this reserve. Another contributory factor to the unsustainable burden on the railway system was the government's post-war industrialisation strategy to attract international firms into the colony with the lure of low wages and cheap transport. These companies came in search of a field of investment where the organic composition of capital was lower,[6] thus offering the potential for higher rates of profit than could be yielded in their home bases, though this was at the expense of a creeping restoration crisis within EARH's capital formation.

While the railway had shouldered the expansion of the colonial economy, it had been short-changed through continuous net deductions from its side of the account. Though it had functioned to promote and subsidise the capital accumulation of the settlers and overseas investors,[7] little attention was paid to the problems of EARH's expanded reproduction. The war period in particular had taken its toll. While settler

capital enjoyed unprecedented prosperity producing for the war effort, the railways were run into the ground. By the end of the 1950s, with the additional strains imposed on the system by the demands of overseas investors impatient for a return, the years of neglect were catching up with the company. Much of its rolling stock had depreciated beyond the costs of servicing. After wages, by far the company's largest expenditures were on loan repayments, fuel and stores, which reflected the rising costs of maintaining an antiquated rail network. In allowing repeated deductions from its own capital, EARH showed a declining rate of profit which claimed its surpluses and rendered the company unable to sustain its accrued indebtedness.

As the semblances of this crisis penetrated the thinking of the Administration, a partial though belated grasp of its contradictions became evident as the company acknowledged that railways,

> like everything else, wear out in time. Although this does not amount to very much each year, after about 50 years the track will be completely worn out and will need replacing. Hence the Renewals Fund, a sum of finance capital will be put aside each year approximate to the costs of wear and tear and the projected costs of replacement at the end of a 50 year period.[8]

As the climax of this period approached, the reserves to finance capital renewal on the scale required were found wanting in face of the accelerated rate of depreciation brought on by the post-war production drive. This crisis had spontaneously ripened. Nothing had been foreseen, few people had wanted to foresee. Severely lacking in foresight, the management of EARH had plodded on for years empirically adapting themselves to the accomplished fact of a colonial economy being run into the ground, sacrificed at the altar of Britain's post-war reconstruction.

Much of EARH's rolling stock and fixed capital were obsolete. Profit could not crystallise from this constant capital, since this had depreciated and lost its value as this transferred to the commodities that were distributed. In essence the railways had been repeatedly raped, and over a long period. Furthermore, the devaluation of the productive forces, of men and things, was severely aggravated by the diminishing technical superiority of EARH in face of competition from other forms of transport. This put intense strain on the railway to pull greater tonnages and meet tight delivery deadlines. Running costs escalated as the trains got longer and heavier. As the company's running costs spiralled, the exploitation of its working capital was stepped up in order to pull it back

from the abyss. As the wear and tear on constant capital became more intense, a restoration crisis approached. This was evidenced by more breakdowns, more repairs and higher overheads to maintain ageing capital equipment, under circumstances where the rate of accumulation was too low to secure sufficient replacement capital. The only variable that could, at least potentially, be controlled was the cost of labour power. This seemed to make the prospect of taking on the railmen un-postponable.

According to its 1958 annual report, EARH management had put all its efforts into 'operational economies' following the disastrous performance of the previous year. This involved the rationalisation and much more intense exploitation of existing capital that was already well on its way out. The result, according to the East African Standard, was that 'the operating efficiency of the railways, expressed in terms of working expenditure to revenue, improved by 6 per cent – "a remarkable achievement" '.[9] But could the train take the strain? While EARH revenue increased by nearly a million pounds during the year, this was achieved through 'heavier goods traffic while reducing the working expenditure' (£70,000 less than the previous year) and higher freight charges introduced on 1 October 1957. Other factors contributed to this 'turnaround', principally redundancies, lower maintenance costs and 'lower engine mileage'.[10] This suggested a number of things.

There was no doubt that much of the company's rolling stock and fixed capital was now well into old age. It was in need of constant nursing and attention, hence the standard expenditure for fuel and stores in a typical year during this period was never less than 20 per cent of the company's total budget.[11] Though on its own admission the company had made arrangements to 'stable' 39 locomotives,[12] lower engine mileages suggested that fewer locomotives were already operational and that considerable maintenance efforts were devoted to keeping them in service. These engines were doing all the work while the rest of the fleet were 'laid off'. Hence their engine mileage was actually higher, but spread across the company's total rolling stock it was passed off as lower. Another consideration was spare parts and the extent of some engines being broken up to keep others in service, though the company was reluctant to part with information on this score. The workforce of 55, 558 was also shrunk by 5,720 during the course of 1958.[13] Buried amidst the display of the company's annual published figures was evidence that the rate of profit was in irrevocable decline. For, while the net earnings for the railways and harbours combined totalled £3,806,000 and were 50 per cent up on 1957, they gave a return of only 3.8 per cent on total

capital expenditure.[14] There was a candid admission, and a warning, from the General Manager, J. R. Farquharson, that 'the acute net revenue position coupled with general financial stringency has had a retarding effect on the development programme of the administration'.[15]

British investors were well aware of what was required in Kenya. Similar problems were being faced by the railway system in Britain. Huge job losses and the closure of many branch lines, together with increases in freight charges and fares, were all on the way as the ground was prepared for the Beeching rationalisation programme of the early 1960s. Marx's analysis of capitalism's inherent crises of accumulation enables an appreciation of EARH's dilemmas as it faced 'the need to improve production and expand its scale merely as a means of self preservation and under penalty of ruin'.[16]

Problems of capital renewal and augmentation

This course was compelling but fraught with problems in a country unable to produce its own capital goods.[17] The weaknesses of the railway network were compounded by the absence of a heavy industrial base with railway engineering industries capable of making components and the engines themselves. The costs of importing and installing these, and retraining workers to operate them, dwarfed the available resources. Furthermore, their purchase would act as a drag on the rate of profit for years to come in order to pay off the requisite loans. In any case, the delays were measured in years for orders of rolling stock and equipment from the UK, which was facing its own restoration and recovery after the war. The Colonial Office insisted that all of Kenya's capital purchases should be made from the UK, therefore it had to wait on British industries to get on their feet sufficiently for these orders to be met. These were hardly the best or cheapest locomotives available, and they had a reputation for high servicing costs, whereas Italian and French models were reputedly of higher quality, were cheaper and could be serviced at low cost. Here was a further instance of Britain attempting to dump the crises afflicting its own perennially uncompetitive and decrepit industries onto its colonies. These problems severely weakened EARH's continuing ability to fulfil its function of shouldering the Kenyan economy. As it faced this crisis, one thing was unavoidable: freight charges would have to go up and the railmen's wages would have to be driven down to secure deductions for the Renewals Fund.

This was an uncertain terrain for the management and posed a clear break with tradition. Both petty commodity producers and the

plantation companies growing cotton, coffee and other export crops were competing in international markets with countries such as the US, Egypt and Brazil.[18] Rising freight charges stood to take the edge off East African exports. EARH made great play of this danger, for instance by harping on about the effects of industrial action on struggling farmers. 'It would obviously be most unfair to raise railway and port charges for these export commodities merely to pay Railway staff higher wages if this can be done only by reducing the incomes of people working in the industries that provide traffic.'[19] Of course this was a spurious argument given the much greater threat from road hauliers, which was underplayed.

The company announced in July 1958 that it was to buy diesel electric locomotives worth £2 million and that proposals for new lines and 'other developments' worth £8 million had been approved.[20] Of the proposed locomotive purchases, eight were ordered from the English Electric Company in Bradford in a contract worth £800,000.[21] There were problems with this decision, since other more advanced countries were embarking upon electrification of their rail networks. This could reduce the competitive life cycle of those diesels on order. As much was admitted by EARH's Chief Operating Superintendent, G. P. G. Mackay, who indicated that 'in four or five years time a major decision would have to be taken whether to continue with diesel electric traction or to turn to straight electric power'.[22] Given the large scale of the region's rail network, a half-baked proposal to electrify the 50 miles of railway line between Kampala and Jinja was investigated by Associated Electrical Industries.[23] This would hardly dent the problems of electrification, and its success depended upon increased electricity generation from the Uganda Electricity Board's own power station at Owen Falls near Jinja. Here again the management was forced to take a short-term decision, since it could hardly contemplate extensive electrification given the small size of the company's Renewals Fund.

EARH faced a restoration crisis of huge proportions with minimal savings barely adequate to finance even short-term capital improvements on the scale required. Another consideration here was the value of the Kenya shilling, which had fallen following a run on the pound in London. International confidence in sterling was weak throughout this period (1959–64), with Britain's worst trade deficits on record.[24] The close ties between the Kenya shilling and the pound made loans and capital purchases abroad prohibitive. During 1958, the company's shrinking expenditure on 'new equipment, works and renewals' was £5 million, £2 million less than the previous

year.[25] Particularly hard hit were 'constructions', with only £2,048,000 invested, a drop of £1,673,000 as compared to 1957.[26] Yet again these figures seem to indicate the overriding claims of finance capital on the company's surpluses, crippling any sustained programme of capital renewal.

Loans and indebtedness

During the first five months of 1958 the company suffered a shortfall of £185,000 in its projected earnings,[27] which further sharply deteriorated during June when earnings fell £230,000 below target.[28] The general manager, J. R. Farquharson, attempted to assuage investors 'that although present traffic trends were "rather dismal", there was no reason to doubt that within a few years traffic would once more expand'.[29] This was far from a forgone conclusion. The workforce would have to be primed and restructured, a task that would involve imposing draconian conditions on an increasingly restive group of workers.

Also unavoidable was the further drift into the debt spiral, as surpluses melted away into servicing loans and the costs of maintaining existing capital increased. As EARH continued to keep its prices down, it risked the depletion of its productive forces, since the rate of capital accumulation would be insufficient to keep pace with depreciation. Any recourse to the money markets to postpone the resolution of these problems would lead to inflationary investments, accruing even more debt, with crippling interest payments acting as a drag on profitability. Amidst the freight war with road haulage companies, these pressures made it hard to pass on rising costs to its customers through increased freight charges. The management had worked itself into a corner, but far from retreating, these contradictions made it more determined to have it out with the railmen.

By October 1958 the Guarantee High Commission and Harbours Loan Bill was well on its way.[30] Its objective was to enable East African governments to guarantee a loan of £8.5 million from the International Bank for Reconstruction and Development (IBRD) for the provision of additional locomotives, rolling stock, new berths and harbours.[31] The Chief of the IBRD Transportation Division duly flew into Nairobi 'to start a tour of the East African railways and harbours system'.[32] EARH had received a previous credit of £8.5 million from the IBRD in 1955.[33] Such a short interval between two major loans was a sign of a deep and profound crisis on the way, in that the company now needed major injections of financial adrenalin to stay afloat.

Apart from the World Bank, much of this credit had been raised on the London market. While most of EARH's loans in the past had been repayable over long periods, there was an increasing resort to short-term loans, as much as £8 million during 1958 alone.[34] Crisis tendencies were affirmed when, in the following year, EARH paid out £2,880,000 in loan charges while just £1,970,000 was set aside for renewals.[35] Interest-bearing capital had exacted its Moloch-like demands over a long period, and reduced the surpluses available for un-postponable investment. In essence, successive loans and indebtedness had served to displace the company's contradictions into the monetary sphere, though these now stood to stifle the accumulation process entirely. Finance capital had exerted an increasing stranglehold over the railway, tying the management's hands and greatly narrowing its room for manoeuvre in face of the rising temper of the railmen.

The freight war with the road hauliers

The manifest inability of the deteriorating rail network and serviceable rolling stock to cope with increasing tonnages and tight delivery deadlines conceded contracts on a large scale to increasing numbers of road haulage operators. Among the many small-scale operators were former soldiers who had invested their wartime savings in vehicles. EARH's erstwhile unchallenged monopoly of transport came under serious threat from this quarter. With few branch lines to service them, both petty commodity producers, now producing on a large scale for overseas markets, and large-scale plantation companies were looking to road transport to get their crops on the move. The plantation companies and the settlers, better served by the railway in the past, also needed an extended network to meet the expanding scale of production. Whereas in the early days the roads were 'mainly the ribs' which carried goods and people to the railway, 'the spine of Kenya's commerce',[36] they now threatened to function independently of, and as an alternative to, the railway. To win back its flagging business, EARH faced re-investment and capital renewal on a scale hitherto unexampled.

The company's Renewals Fund was barely sufficient to renew its capital formation at a time when not just its replacement but also its augmentation – that is to say, the construction of new branch lines – was urgently required in face of the intense competition from road hauliers. This was so serious that by July 1958 the railway had a surplus capacity of 15 to 20 per cent and 'was anxious to get all the traffic it could'.[37] Its dilemmas were considerable. If it raised freight charges it risked losing

further contracts to road operators, but if it relented it risked gathering sufficient capital reserves for re-investment. Indeed, even with a competitive tariff, its estimated losses in 1958 due to competition were £800,000.[38] Both courses threatened to erode any absolute surplus.

It was in face of this competitive threat that the narrow minimalism of the management seemed most exposed. For even here they were at a loss to defend some of their more important freight charges in the escalating war with the road hauliers. After much prevarication, the general manager, J. R. Farquharson, seemed to have found his resolve: 'If we get no assistance from any east African government we shall fight this battle and stay alive – but on a competitive tariff'.[39] The company then raised its charges for commodities that had been protected 'by differential tariffs and carried at uneconomic rates'.[40] Nonetheless there was a cruel penalty, as the returns for February 1960 revealed upcountry railings down 10,000 tons on the previous February.[41]

The government writhed with the crisis and contradictions within its own infrastructure, the base upon which it was dependent. Hitherto the railway had enjoyed 'a virtual monopoly of the transportation of imports and exports' through its differential tariffs. This was reinforced by Kenya's system of road transport licensing and EARH's effective resistance (until after 1960) to the building of a tarmac road linking Nairobi to the coast.[42] EARH was desperate to regain the advantage in its battle with the road hauliers and its deputy general manager, W. Urquhart, looked to the government to amend the Transport Licensing Ordinance in order to protect its differential tariff against road competition. He insisted that the differential tariff 'must be protected [...] as without this differential form of charging we cannot continue to assist Agriculture'. He urged:

> [...] the fullest utilisation of the railways capacity because the greater the quantity of traffic offering, the less the average cost of movement; therefore, the greater the volume of traffic handed to the Railway for carriage, the less the unit cost becomes, and with this goes the possibility of reducing the average rate of 20 cents. Conversely, the greater the volume of traffic lost to road transport, the greater is the average unit cost of movement and, with this, the necessity of increasing the average rate [...] 'What is the Railway's policy about rating?' The answer, in a nutshell, is that we want to carry the country's products at the lowest rate we possibly can. In order to enable us to do this we must obtain as great a volume of traffic as possible, and so long as we have a differential tariff with high rates susceptible to road

> competition we must have some sort of protection. I feel it is up to those bodies in East Africa which are interested in agriculture to give us their support in this battle, which, I am afraid, is now developing between the differential tariff and road transport interests.[43]

In October 1958 there were clear signs that the government was preparing to push EARH into abdicating its differential principle, as the Legislative Council gave its support to a £4 million programme to bituminise the main roads,[44] with plans to extend this after 1962 by a further £3 million.[45] Overall, approximately 300 miles of road were to be built with loans at 6 per cent interest.[46] Such a move would undoubtedly strengthen the position of the road hauliers while absolving them from any substantial contributions to the heavy capital investment that would fall to the state. The Railways Chief Commercial Superintendent, C.T. Hutson, complained that 'road transport might not be paying its fair share towards the cost of roads, which fell largely on the shoulder of private motorists'.[47]

Evidence that the government was looking both ways came with the recommendations of the interim committee appointed to examine the Transport Licensing Ordinance, which proposed that EARH 'should be protected against road transport competition over long hauls parallel with the railways'.[48] The stresses of competition were finding expression within the departments of the state itself, with some officials bending towards the road lobby and others maintaining entrenched loyalties to EARH.[49] The basis of railway rates had been founded on the 'differential principle' whereby agricultural and primary products were carried 'at less than average cost' and the budget balanced 'by charging a relatively high rate for those commodities which are judged capable of bearing the additional charges'. The railway tariff was divided into eight class rates and four special rates. The top rate was set at 60 cents per mile for those goods in the higher brackets such as textiles, cigarettes, wines and spirits, while the lowest rate of six cents per ton-mile was applied to items such as imported fertilisers and selected exports. Rates were also tapered so that the rate per ton-mile decreased as the distance increased. The average export rate was 12½ cents per ton-mile, while the overall rate for imports and exports averaged 20 cents per ton-mile.[50]

Addressing the Board of Agriculture, the company's deputy general manager W. Urquhart defended its differential principle, since 'in this way the Railway complies with its obligations to assist agriculture and primary industries'.[51] He urged that the costs of rail traffic be kept 'static' by 'keeping up to date with modern equipment and by increasing

efficiency' and exercising 'the strictest economy'. He made clear that the company did not wish to raise its gross revenue by increasing 'the average level of rates', but planned to generate financial surpluses 'by moving more and more traffic as the trade of this country grows'.[52]

Generally the lowest freight rates applied to basic agricultural products. All grain was charged at 'Special Rate B' at an average cost of ten cents per ton-mile. Processed produce for export, such as canned fruit and vegetables, were charged an average of 15 cents per ton-mile. Coffee, by far the colony's most important earner of export revenue, was charged at 22 cents per ton-mile. Unlike other commodities, the transit of coffee from its forwarding points to the coast was broken in Nairobi, where all the colony's coffee milling and marketing occurred.[53] In the lowest rates, that of Special Classes A, B, C and D – which varied from six to ten cents per ton-mile – such commodities as fertilisers, cattle cake, wattle bark, cotton seed, grains, sisal, sugar and timber were carried. The bias towards agriculture was also evident in the preferential treatment given to items such as fencing posts, which were charged at a lower rate than, for example, timber for telegraph poles. Baling and fencing wire, mainly used in agriculture, were also charged at rates lower than for similar products used for other purposes. Cheap rates were also afforded for the carriage of livestock, with an average of around nine cents per beast per mile, though a pig travelled more cheaply than the rest at one and a half cents a mile.[54] EARH had planned to increase this rate by 50 per cent, but as the industry was going through a period of crisis this was deferred 'until such time as the financial situation of the industry improves'. This was a further example of the way that the railway had carried settler agriculture, especially when its levels of profitability were at their lowest. However, EARH's own crisis of accumulation meant that it was now unable to shoulder such a burden.

To keep the rates charged to agricultural products below the 20 cents average, EARH relied upon carriage charges for consumer goods on such items as petrol, hardware and paints at rates well above the average cost of movement so that it could 'apply the revenue derived from these to subsidising the lower rated traffic'. It was essential that 'a fairly high proportion' of railway traffic should consist of such commodities, 'for if the proportion of these traffics to the proportion of all traffics falls appreciably, then the Railway would be unable to continue its policy of charging exceptionally low rates for agricultural traffic'.[55]

EARH's relatively high freight charges to consumer goods made them vulnerable to competition from road hauliers, who 'with a good load factor and a return load' were able to carry freight at around 30 cents

per ton-mile. Any goods carried by the railway above this rate could be 'weaned away' by road transport. The annual losses to EARH as a result of this competition were estimated towards the end of 1958 to be 'in the region of' £840,000 a year, of which £385,000 was lost in Kenya.[56] These figures excluded the movement of petrol between Mombasa and Nairobi which, had it been allowed to continue on the old tariff, would have resulted in a revenue loss on its own of £120,000 per annum.

In an attempt to recover some of this loss, 'or at any rate to stabilise the position and stop further erosion . . .', EARH lowered its higher tariffs and raised its lower ones from 1 January 1959. The highest rates were reduced from 60 to 40 cents per ton-mile, at risk of a revenue loss to the railways of £700,000 a year. The projected increases in lower rates, to help make good the difference, marked the end of an era. All traffic moving in classes six to ten and all export rates were increased by 5 per cent on the assumption that road competition would be controlled, otherwise 'it may be necessary to go still further in this narrowing of the differential'. The top rate of 40 cents was still vulnerable and 'unless this competition can be restrained' the company anticipated that 'sooner or later' it would have to relent and reduce this tariff to 35 cents or even 30 cents per ton-mile.[57] Correlatively, this would mean increasing the lower rates by a further 10 per cent.

A regime of economy

While the management had been compelled to increase its freight charges on primary exports, this still fell far short of enabling the company to take on the road operators. Expanding the network and building new branch lines in order to sideline the road hauliers brought the company face to face with resourcing considerable capital investment. Apart from loans, this could only be resourced at the expense of financing allocated for wages. Staff costs were the company's most expensive budget item, running at £8,990,000 of a total yearly expenditure of £19,500,000 for 1958.[58] Furthermore, the cost of the necessary technical changes required to prime the company spelt a rising organic composition of capital, that is to say the relationship and ratio between constant capital (dead or abstract labour) and variable capital (living labour power).[59] New investment in rolling stock and fixed capital generally courted the displacement of labour power, redundancies and restructuring for the railmen, as actually took place during 1959–65.

Another side to the company's 'operational economies' was the rationalisation and more intense exploitation of labour power.[60] Against

a background of redundancies was the increasing length and intensity of the working day for a contracting workforce, which aimed to ensure the maximum physiological loading of each individual worker. The lower-grade railmen endured the most intolerable conditions, and their grievances on this score were submitted by one of their representatives to the general secretary of the Railway African Union [Kenya] in August 1957:

> [...] many, especially those in the Operating Department, have to work 84 hours a week of which 12 hours are 'compulsory overtime'. Others in the same Department have to work 56 hours a week of which eight hours are compulsory overtime. In both these cases no time is permitted for meals in the course of duty. Imagine a points man running up and down the Yard marshalling trains for 12 hours without any meals and that for weeks on end, or a signal man working for eight hours without meals, or a Station Master attending to the public and passing trains from 8.00 hours to 20.00 hours without any meals. I challenge any one of you to try that and then perhaps you will be able to taste what the hell we are going through.[61]

It was not just the racist attitudes of European supervisors which sparked the inter-territorial rail strike in November 1959. This racism was embedded in an occupational structure that gave prominence to Europeans and Asians while holding Africans in a subordinate status. This aside, supervision was 'the byword of the era' in EARH,[62] and it became a burning issue for employers all over Kenya engaged in the struggle to remake the workplace.[63] The management attributed falling rates of profitability to the alleged slackness and low output of African workers, which was blamed on their alleged inherent laziness. Just prior to the strike, the Chief Mechanical Engineer 'felt that apart from Time and Motion Study, increased productivity could be achieved only by increased supervision, generally European supervision'.[64] It should come as no surprise to us then that the Kenyan railmen should be provoked into struggle over this issue, for behind it lay concerted attempts to step up the rate of exploitation with the aim of arresting the railway's flagging accumulation.

A regime of economy in the form of a massive rationalisation of production stared the management in the face. This meant taking on the railmen by cutting wages, raising productivity, lowering costs and shedding jobs. For a leaner EARH, a redesigned workplace, facilitated by large-scale job losses and the installation of new and more advanced

equipment,[65] seemed to offer a way forward since the exploitation of the remaining workforce could be intensified through changes in working practices. This course involved considerable initial outlays, hence the management's insistence 'that there were no economic grounds whatever for the granting of an increase'.[66]

According to the chairman of the East African High Commission, 'no case had been, or could be, established for any increase for any grade of staff on economic grounds'.[67] However, in the wake of the recommendations of the Carpenter Committee on African wages (1954),[68] and in face of a determined strike, the management attempted to split the railmen by offering to increase minimum wages of the lowest-grade Group C workers by ten shs, from 80/- to 90/-, in separate deals within each colony on the basis of its 'social aim to increase the income of the lowest paid staff . . .'.[69] However, such an offer was not be across the board, but at the expense of lesser increases for its higher-grade workers.

EARH's belated course towards modernisation stood to downgrade all but its lowest-grade workers and to attach the unskilled and semi-skilled workers at the bottom of its Group C African staff still more firmly to the needs of the company. A complicated grading structure had evolved over many years on the railways, with workers divided on racial lines and according to their level of skill. Even within the various skill categories there were complex gradations. The overwhelming majority of African workers were contained within Group C, which was structured into six categories. These were unskilled and semi-skilled workers such as labourers, porters, pointsmen, gangers and so on, on wages ranging from 70 shs to 218 shs per month. The Group B workers consisted of clerks, stationmasters, artisans and locomotive drivers on wages ranging from £118 to £1,410 per year.[70] This structure was used to mould deference to the company, to fragment the workforce and to disable the prospect of strike action. Following the Carpenter Report, the Lidbury Report of the Commission on the Civil Services of the East African Territories and the East African High Commission came up with the principle of non-racial salary scales to be applied among state employees. The old grading system, which specifically categorised workers by race, was to be replaced by a complex structure based on occupational categories. These overlapped to a very high degree with the old racial divisions and effectively reinstated them under a new guise.

The management drew back in horror at their own estimate of £6,000,000 to pay the railmen in the three territories. 'It is clear that there is no possibility of meeting these claims.'[71] Having for years ignored the creeping necessities of capital restoration, the employers

had convinced themselves that the gap between the finance capital available and that required for large-scale renewal was to be made up by the railmen themselves. This course collided with a determination from the railmen across the region to defend their differentials and to fight for long overdue, substantial, across-the-board wage increases.

Labour resistance in the transition to independence

The inter-territorial character of the railways administration was its greatest strength in dealing with the railmen. All trade unions were required to comply with territorial ordinances regarding registration in a way which virtually outlawed inter-territorial organisation among themselves. Various labour ordinances within the three colonies of the region prohibited strike action in areas designated as essential services pending the exhaustive procedures of 'compulsory arbitration'. Thus railmen in Kenya, Uganda and Tanganyika, though facing the same employer, could neither legally amalgamate, nor act in any singular way. Hence, the declaration of the 'National Congress of Railwaymen' by all three unions at their Mwanza summit in Tanganyika in September 1959, which established the principle of inter-territorialism among the men themselves, was of profound significance. As the meeting broke up, union leaders were undoubtedly afraid that they had gone beyond themselves. Nevertheless, the principles of inter-territorialism had been established.[72]

This significant move forward reflected strong undercurrents among East African railwaymen that erupted to the surface in what became an inter-territorial strike, which began on 14 November 1959 in response to the bullying supervision of a European supervisor in Nairobi's rail yards. The dispute spread rapidly, compelling the Railway African Union (Kenya) to put out a call for a colony-wide strike. Within days, the majority of Kenya's railmen had stopped work. Railmen in Tanganyika and Uganda soon followed them into action, marking the region's first inter-territorial strike,[73] which continued intermittently until April 1960. The strike seems to have given coherence, form and universality to working class struggles at a crucial moment coincident with the end of Kenya's Mau Mau Emergency and the announcement of transition to African majority government in January 1960. This marked a significant watershed throughout the East African territories.

The rail strike triggered an avalanche of strikes throughout Kenya's plantation economy and set in train recurrent strike waves in all three colonies. In Kenya, the transition to independence (1963) was

bedevilled by successive strike waves in all sectors of the economy. Thus the railway struggles gave the trade unions the shove that they needed, as labour conflicts enveloped central Kenya and the Kericho valley throughout the immediate pre-independence period, with tens of thousands out on prolonged strike. Almost a million working days were lost during 1961 alone.[74] The lifting of the Emergency, during which thousands of union members were arrested, incarcerated or 'disappeared', was marked by a new confidence. The strike especially re-awakened and lifted Kenya's labour movement, aiding its recovery from years of harsh repression and semi-legality. According to Kenya's Labour Department, the 'major feature' of 1959 'was the spread of the trade union movement amongst African workers'.[75] After years of fierce state repression and draconian workplace discipline, new layers of African workers embraced trade unionism and moved into their first organised struggles over wages and conditions. They were joined by unrestricted former Mau Mau detainees and the victims of land consolidation who entered the workforce. The arousal of high expectation fuelled the successive and widespread strike waves that engulfed the Kenyan economy during the approach to independence, which presented the outlines of a developing working class movement. The conflagrations came at a time when constitutional conferences least anticipated – or needed – such external pressures.[76]

The period between 1959 and 1965 was fraught with risks as the colonial governments transferred their authority. Throughout this process in Kenya, and exacerbating its tensions and contradictions, the state's own servants, the 'non-productive' workers, participated in successive strike waves whose embers glowed well beyond independence. These strike-prone years were an unprecedented period, far surpassing all previous levels of militancy, which reached its zenith in the 1962 General Strike. Few urban and rural sectors were left untouched by industrial action: coffee, tea, sisal and general agriculture, the railways, docks, electricity supply, post and telecommunications, banks and airlines, construction, engineering, the oil and petroleum industry, chemicals, glass, distribution, tobacco, brewing and bottling, food processing, hotels and restaurants, timber and furniture trades, textiles, shoe and leather industries, education, civil and public services. These struggles were only eventually tamed as union leaders struggled to arrest the movement and surrender organisational autonomy to the postcolonial corporate state, which proceeded to straitjacket the movement by a panoply of repressive labour laws, a process supervised by Kenya's foremost labour leader, Tom Mboya.

Conclusion

This chapter has examined and analysed the eruption of crisis tendencies within the infrastructure of the East African state monopoly of transport at the end of the colonial era. Without EARH, little could move or circulate within the colonial economies of the region. It had served to facilitate the 'first condition of capitalist production, namely, that the product must be a commodity and therefore express itself as money and undergo the process of metamorphosis'.[77] The company became crisis-ridden as this facilitating role broke down.

The work here has drawn upon Marx's theory of capitalist crisis in order to examine the rupture of opposites between use value and exchange value, purchase and sale, the commodity and money which then released powerful anti-commodity crisis tendencies. This theory was integral to Marx's work on the commodity, though it remains incomplete within his work and thus needs to be interpreted in light of historical circumstances, as attempted here. The chapter contends that the anti-commodity can only take on meaning as an opposite which is essentially unified with its 'other', the commodity which fulfils itself only at the point of sale in the act of exchange. Should this essential unity be unfulfilled, crisis tendencies are stirred into motion by ever-present anti-commodity tendencies inherent within the process of capital accumulation. This crisis within EARH threatened the rupture of purchase and sale in the wider regional economy by the breakdown in the system of commodity circulation that threatened the velocity of goods in motion and their becoming commoditised at the point of exchange.[78] The contention here is that the anti-commodity is an innate tendency, not an untoward occurrence disturbing an otherwise harmonious progress towards equilibrium. It has been treated here as a determining force that EARH could neither manage nor channel without an exceptional collision with its workforce.

In this regard, the work latterly brings labour power into view as the anti-commodity par excellence. It is a living substance whose bearers simultaneously embrace and defy commodification. The recurrent crises which beset capital dominate the wage bargaining process, where the terms and conditions of commodification are periodically contested but can never be absolutely settled. The railmen's strike against wage cuts and redundancies was brought on by the rationalisation required to facilitate commodification under a stringent set of conditions within global markets following the collapse of the post-war primary commodities boom in the mid-1950s. African railwaymen collided

with the evolving political configuration of these external pressures, which enveloped the decolonisation of the region. The inter-territorial strike was a major setback to the company's rationalisation programme, which could only be completed after independence under the auspices of 'Africanisation'. While this ended racial pay scales and the colour bar generally, African railwaymen became strapped into the newly erected corporatist structures of bargaining and conflict resolution that precluded the right to strike.

Afterword

This chapter is based on a paper originally presented at the Commodities and Anti-commodities conference at Wageningen University in September 2012. I gratefully acknowledge and greatly value the consistent support I have received over several years from my collaboration with scholars involved in the British Academy sponsored Commodities of Empire project sustained by the Open University's Ferguson Centre for African and Asian Studies, and in the Netherlands Organisation for Scientific Research (NWO) funded Commodities and Anti-commodities research project based at Wageningen University's Knowledge, Technology and Innovation Group.

Notes

1. There is a wide literature on the colonial war in Kenya. W. O. Maloba (1993) *Mau Mau and Kenya* (Melton, Suffolk: James Currey) is still the best introduction.
2. D. Hyde (2009) 'Paying for the Emergency by displacing the settlers': Global coffee and rural restructuring in late colonial Kenya' *Journal of Global History*, 4 (1), Commodities of Empire special issue, 81–103.
3. See Marx's discussion in *Capital* (Moscow: Progress Publishers), vol. 1, Chapter XXIV, 'Conversion of surplus value into capital', pp. 543–73.
4. D. Hyde, 'The East African railway strike 1959–60: Labour's challenge of inter-territorialism', unpublished paper.
5. Kenya National Archives (KNA) AF 3/2/Thika Agriculture and Manpower Committee; Minutes of a Meeting of the Board of Agriculture, 27 November 1958. Cited in an address to the board by W. Urquhart, EARH Deputy General Manager.
6. K. Marx (1959) *Capital*, vol. 1 (Moscow: Progress Publishers), Chapter VIII, 'Constant and variable capital', pp. 193–203.
7. Ibid., p. 564. 'The conversion of money into means of production and labour power, is the first step taken by the quantum of value that is going to function as capital. This conversion takes place in the market, within the sphere of circulation. The second step, the process of production, is complete so soon as the means of production have been converted into commodities,

whose value exceeds that of their component parts, and, therefore, contains the capital originally advanced, plus a surplus value. These commodities must be thrown into circulation. They must be sold, their value realised in money, this money afresh converted into capital, and so over and over again. The circular movement, in which the same phases are continually gone through in succession, forms the circulation of capital.'

8. PRO/CO 822/2461 (Enclosure 42): 'Railway Finances and Wages Policy', Railways and Harbours Special Notice No. 65, February 1960.
9. East African Standard, 10/4/59.
10. PRO/CO 822/2461 (Enclosure 42): 'Railway Finances and Wages Policy'.
11. Ibid.
12. East African Standard, 10/4/59.
13. Ibid.
14. Ibid.
15. Ibid.
16. K. Marx (1959) *Capital*, vol. 3 (Moscow: Progress Publishers), Chapter XIV, 'Counteracting influences', pp. 239–40.
17. K. Marx (1956) *Capital*, vol. 2 (Moscow: Progress Publishers), Chapter XX, 'Simple reproduction', pp. 399–406. Marx made a major breakthrough in political economy with the division of total social reproduction into two major departments: Department I producing means of production and Department II producing articles of individual consumption. For expanded reproduction and capital accumulation, part of the surplus value is used to increase production. This means first of all the expansion of Department I producing means of production. Rosa Luxemburg developed this further with her point that the conditions for continued reproduction cannot be maintained within colonies because Department I is almost always deliberately absent, hence their dependency on the advanced economies.
18. Hyde, 'Paying for the Emergency by displacing the settlers'.
19. PRO/CO 822/2461 (Enclosure 42): 'Railway Finances and Wages Policy'.
20. *East African Standard*, 4 July 1958.
21. Ibid., 29 August 1958.
22. Ibid.
23. Ibid., 30 October 1959.
24. A. Sked and C. Cook (1979) *Post-War Britain, A Political History* (Gretna, New Orleans: Pelican Books), pp. 181–4.
25. *East African Standard*, 10 April 1959.
26. Ibid.
27. Ibid., 29 August 1958.
28. Ibid.
29. Ibid.
30. Rhodes House Library. MSS.Brit.Emp. S365/FCB 113/2: EARH Public Relations Office: approximately £2.75 million was required for harbour works and £5.75 million for railway works. It was not envisaged that any of the funds required as a result of the bill would be needed until 1959. The passing of the bill was to enable essential orders and contracts to be placed. The principal harbour works planned under the programme were designed to increase port capacity to match anticipated traffic demands. They included the work required to enable two Kipevu berths to be brought into service, following

the completion of the four quay walls which were already under construction, and for the reconstruction of transit sheds at berths 7 and 8. The principal railway works included £1.65 million for locomotives and rolling stock, mainly for the first stage of converting the Nairobi–Nakuru section from steam to an alternative form of motive power to increase capacity and overcome water supply difficulties. Approximately £1.25 million was needed for relaying heavier rail and for ballasting on the Central and Tanga lines, for relaying between Jinja and Kampala, and for improvements to signalling and water supplies. Just over £1.25 million was earmarked for the development of marshalling yards and terminal facilities to increase their capacity, including £750,000 for the further development of Changamwe marshalling yard to serve Mombasa, and a similar amount for development of workshops and inland water services.

31. *East African Standard*, 17 October 1958.
32. Ibid., 27 March 1959.
33. Ibid.
34. PRO/CO 822/2461 (Enclosure 42): 'Railway Finances and Wages Policy'.
35. Ibid.
36. C. Leys (1975) *Underdevelopment in Kenya: The Political Economy of Neo-Colonialism* (Berkeley and Los Angeles: University of California Press).
37. *East African Standard*, 4 July 1958.
38. Ibid., 10 April 1959.
39. Ibid.
40. Ibid., 4 July 1958.
41. *Uganda Argus*, 29 March 1960.
42. Leys, *Underdevelopment in Kenya*.
43. Kenya National (KNA) AF 3/2/Thika Agriculture and Manpower Committee; Minutes of a Meeting of the Board of Agriculture, 27 November 1958.
44. *East African Standard*, 12 June 1959.
45. Ibid.
46. Ibid.
47. Ibid., 4 July 1958. Established by the colonial government in 1951, the Road Authority was charged with policy-making, planning and financing of Kenya's roads. The authority received revenue derived from fuel taxes, vehicle and drivers' licences and capital grants from the government.
48. *East African Standard*, 18 December 1959.
49. In the period 1950–63, £18 million was spent on road development in Kenya with assistance from the Colonial Development Corporation, the World Bank and the West German government. This included £4,800,000 for a contractor finance scheme whereby 260 miles of trunk roads were bitumenised. In addition the Road Authority, working through the Ministry of Works and 38 local authorities, was spending approximately £1 million a year on road maintenance.
50. Kenya National Archives (KNA) AF 3/2/Thika Agriculture and Manpower Committee; Minutes of a Meeting of the Board of Agriculture, 27 November 1958.
51. Ibid.
52. Ibid. On differential rates and charges, Urquhart made plain, 'We do not want to increase this. We do not wish to obtain additional revenue by raising

this average rate. Our policy is to do everything we possibly can to hold the average transport costs at this, or less than this, figure. We think we can do this, and our intention is – if costs outside our control continue to rise – to try and keep the net cost of transport static by keeping up to date with modern equipment and by increasing efficiency. We, on the Railway, think that if we continue to exercise the strictest economy and hold the average transport cost to the public at or near this figure, then we are doing a great deal to stabilise the economy of East Africa . . . we do not wish to increase our gross revenue by increasing the average level of rates but we do hope to be able to increase our revenue by moving more and more traffic as the trade of this country grows.'

53. For an account of the protracted crisis on world coffee markets during this period and its impact on the Kenyan economy, see D. Hyde (2000) *Plantation Struggles in Kenya, 1947–63,* PhD thesis, School of Oriental and African Studies.
54. As to human passengers, those travelling first class paid an average of 24 cents a mile and those in third class 6 cents a mile.
55. Kenya National Archives (KNA) AF 3/2/Thika Agriculture and Manpower Committee; Minutes of a Meeting of the Board of Agriculture, 27 November 1958.
56. Ibid.
57. Ibid.
58. PRO/CO 822/2461 (Enclosure 42): 'Railway Finances and Wages Policy'.
59. Marx, *Capital*, vol. 1, Chapter VIII, 'Constant and variable capital', pp. 193–202.
60. Marx, *Capital*, vol. 1, Chapter XXV, 'The general law of capitalist accumulation', pp. 603–4. 'Another important factor in the accumulation of capital is the degree of productivity of social labour [. . .] But hand-in-hand with the increasing productivity of labour, goes, as we have seen, the cheapening of the labourer, therefore a higher rate of surplus value, even when real wages are rising. The latter never rise proportionally to the productive power of labour. The same value in variable capital therefore sets in movement more labour power, and, therefore, more labour. The same value in constant capital is embodied in more means of production, that is to say, in more instruments of labour, materials of labour and auxiliary materials; it therefore also supplies more elements for the production both of use-value and value, and with these more absorbers of labour. The value of additional capital, therefore, remaining the same or even diminishing, accelerated accumulation still takes place. Not only does the scale of reproduction materially extend, but the production of surplus value increases more rapidly than the value of additional capital.'
61. R. Sandbrook (1975) *Proletarians and African Capitalism: The Kenyan Case 1960–72* (Cambridge: Cambridge University Press), pp. 102–3.
62. F. Cooper (2014) *On the African Waterfront: Urban Disorder and the Transformation of Work in Colonial Mombasa* (ACLS Humanities E-Book), p. 168.
63. Ibid.
64. Kenya Railways Archive, EST 13/11: Extract from Minutes of Chief Officers' Meeting, 16 April 1959.
65. During the period 1955–65, the total workforce was reduced by over one-third, from 63,518 to 41,902. East African Railways and Harbours Annual

Reports 1949–64 [1965 figures provided by the company], R. Grillo (1973) *African Railwaymen* (Cambridge: Cambridge University Press), p. 20.

66. PRO/CO 822/2461 (Enclosure 42): Savingram from the Chairmen, East African High Commission to the Secretary of State for the Colonies, 6 April 1960.
67. Ibid.
68. M. Singh (1980) *The Crucial Years of Kenya's Trade Unions, 1952–56* (Nairobi: Uzima Press), pp. 56–72.
69. PRO/CO 822/2461 (Enclosure 42): Savingram from the Chairman, East African High Commission to the Secretary of State for the Colonies.
70. CO 822/1492 (Enclosure 12): Savingram from the Commissioner for Transport, East African High Commission to the Secretary of State, 5 May 1958.
71. CO 822/2461 (Enclosure 42): 'Railway Finances and Wages Policy'.
72. Hyde (2015) 'The East African railway strike 1959–60: Labour's challenge of inter-territorialism' *Labour History Review* special issue, *Trade Unions in the Global South* (forthcoming 2015, unpublished paper).
73. Ibid.
74. CO 544/100: Labour Department Annual Report, Kenya Administration Reports, 1961.
75. Ibid., 1960.
76. D. Hyde (2010) 'Undercurrents to independence: Plantation struggles in Kenya's Central Province 1959–60' *Journal of Eastern African Studies*, 4 (3), 467–489.
77. K. Marx (1969) *Theories of Surplus Value*, Part II (Moscow: Progress Publishers), pp. 492–535 contains Marx's most sustained discussion of crises.
78. Marx, *Capital*, vol. 1, pp. 87–8.

> To say that these two independent and antithetical acts have an intrinsic unity and are essentially one, is the same as to say that this intrinsic oneness expresses itself in an external antithesis. If the interval of time between the two complementary phases of the complete metamorphosis of a commodity becomes too great, if the split between sale and purchase becomes too pronounced, the intimate connection between them, their oneness asserts itself by producing – a crisis. The antithesis, use-value and value; the contradictions that private labour is bound to manifest itself as social labour, that a particularised concrete kind of labour has to pass for abstract human labour; the contradiction between the personification of objects and representations of persons by things; all these antitheses and contradictions, which are immanent in commodities, assert themselves, and develop their modes of motion, in the antithetical phases of the metamorphosis of a commodity. These modes therefore imply the possibility, and no more than the possibility of crises. The conversion of this mere possibility into a reality is the result of a long series of relations that, from our present standpoint of simple circulation, have as yet no existence.

8

Rice, Civilisation and the Swahili Towns: Anti-Commodity and Anti-State?

Erik Gilbert

Introduction

In the 1830s, coastal East Africa was drawn into an emerging global market for agricultural commodities. Long-distance trade was nothing new to the region, but prior to the 19th century the region's main exports had been, at various times, ivory, rhino horn, turtle shell, slaves, rock crystal, gums, resins and gold. In the early 19th century the Omani Arabs who ruled Zanzibar and much of the coast began to create a plantation complex that used slave labour to produce cloves, coconuts and sugar. While sugar was only moderately successful, the islands of Zanzibar and Pemba quickly became the world's largest producer of cloves. Almost the entire clove crop was exported to India and Indonesia. The coconuts, which were grown on the mainland as well as the islands, were processed into copra and coir and exported to India and Europe. Alongside the clove plantations of the islands was a less well-studied plantation sector that produced grain on the mainland of what is now Tanzania for export to the islands and to South Arabia. These coastal plantations produced mostly millet and sorghum and like the clove plantations also relied on slave labour.

Thus most of the major agricultural products of the coast became internationally (or perhaps more accurately 'intercolonially') traded commodities. Rice is a notable exception to this pattern. While other grains, like sorghum and millet, became plantation crops, rice continued to be produced mostly at the household level. Rice is a crop that is well suited to the coastal strip and the islands and one that has a long history there. It is one for which there were markets in the 19th-century Indian

Ocean region and within East Africa. If anything, the regional and global market for rice was bigger than that for millet and sorghum. Despite this, rice cultivation never attracted the capital or plantation-style production that other grain crops did. Rice farmers in East Africa have also resolutely resisted intensification of their crop. Even now agronomists and development economists scratch their heads at this, wondering why rice cultivation has not led to any form of water management or other types of intensification in the region.[1,2] Tanzanians currently grow and eat more rice than any other nation in East Africa, but the only large-scale, intensive rice production takes place on demonstration farms run by the Chinese and North Koreans. Local farmers continue to prefer to grow rice at the household level and mostly persist in rejecting water management or other forms of intensification.

At the same time, rice enjoys a social significance and status that none of the crops that became plantation-produced commodities do. On the coast rice is the status staple; it is essential to weddings and other moments of social display. Eating rice plays a central role in the complex racial hierarchy of the coast. Eating rice is seen as sophisticated. Rice eaters are worldly and have links to the broader world of the Indian Ocean. Even in the interior region of East Africa and Tanzania in particular, where rice cultivation dates only from the early 19th century and the claims of foreign origin that are central to social status on the coast are not part of the calculus of hierarchy, rice is still a status food eaten on special occasions. By contrast, cassava and maize are just food. In some places millet and sorghum are socially important because of their association with beer making, but that very association is seen as old-fashioned, even atavistic, and is frowned upon by Muslims and by many Christians.

The odd place that rice occupies in East African farming and food consumption is the subject of this chapter. I will argue that rice's unusual place in 19th- and 20th-century East African culture and economy is a consequence of a deeply imbedded role in the creation of coastal identity, a role that stretches back to the 11th century. When the Swahili first adopted rice, it was as a symbol of their engagement with the Indian Ocean world. They ate and cultivated rice because it identified them as different from the non-Muslim peoples of the interior, whom they held in low regard and still disparage as *washenzi* or savages. They did not choose rice as a crop or food because a tax collecting state compelled them to do so, or because economic or environmental necessity demanded it. Rice was not a commodity to the Swahili; it was a statement of who they were. It provided the appearance of commodification

but little of the substance. I will also argue that the way rice was grown and consumed among the Swahili reflects and parallels the unusual nature of the Swahili state. The state developed on the Swahili coast, taking the form of many small city states, but the state was so attenuated and limited that it hardly deserves the name. The Swahili state seems to tread the line between the African stateless society and a more conventional Eurasian state, having the outward appearance of a conventional state, but behaving more like a stateless society. So, if we can consider rice, a prized and socially esteemed food for which there was virtually no market, an anti-commodity, then perhaps the Swahili state, which similarly provided the appearance of a state with little of the substance, might be seen as an anti-state. This not to argue that the Swahili had some deep-seated antipathy to the state, but rather that there were few local models for the creation of a state. Just as the Swahili consumed rice because it was the sophisticated thing to do, the Swahili state was also largely about appearances. Islamic societies across the sea were ruled by sultans, so as the Swahili sought to emulate those societies they adopted the forms if not the entire substance of the Islamic state. Eventually more conventional states emerged on the East African coast, first in the form of Omani rule and then in the form of European colonial empires. But even as the Swahili were forced to accept the conventional Eurasian state, they retained their unconventional approach to rice.

What follows is divided into three parts. First I will look at the place of rice in the creation of Swahili towns. In the second part I will examine the social and economic place of rice in the 19th and 20th centuries. Finally, I will briefly consider the utility of the concept of the anti-commodity in thinking about rice in East Africa.

The Swahili towns and their historians

East Africa's Swahili coast, which historically extended from Mogadishu to northern Mozambique, has long served as a sort of historiographical Rorschach test. Scholars have long projected onto the Swahili towns their particular visions of the African past. Between 800 and 1000 CE the Swahili began to build monumental architecture out of stone, accepted Islam, became literate, minted coins and claimed origins in the Middle East. As such, they did not fit standard ideas of what African societies were like. Well into the 20th century Swahili towns were considered to be the product of Arab colonists who came to East Africa either as refugees from religious upheaval in the early Islamic period or as merchant adventurers. As late as the 1960s, imperialist historians described

Swahili towns as 'Arab settlements', assuming that the basic characteristics of Swahili life were incompatible with an African identity.[3] By the 1980s Africanist scholars had rejected the idea that the Swahili were somehow an alien implant on the coast.[4] Instead they argued that the Swahili were African and cited them as examples of 'African achievement'. In doing so they treated Swahili towns as comparable to Eurasian city states, still the yardstick by which historical achievement was measured. In effect they claimed the Swahili as African but applied a Eurasian vision of the state to the Swahili towns.[5]

In recent years, archaeologists have begun to challenge the notion that Swahili polities and economies followed Eurasian models. The work of these scholars, the most notable of whom are Mark Horton, Adria LaViolette and Jeffery Fleisher, suggests that Swahili towns were functionally quite different from Eurasian towns. They argue that in some ways the Swahili towns were economically more like giant villages. Furthermore, even though the Swahili had many of the tools of a centralised state at hand (for example literacy and coinage), the state was highly attenuated, and by some definitions of the state not a state at all. In effect, the Swahili town was a stage set on which a theatre of statecraft and hierarchy was played out. Rice and rice cultivation were important features of that drama.

From villages to towns

Between 750 and 1000 CE the first towns emerged on the Swahili coast. A few of the many villages along the coast began to grow in size relative to their neighbours. Many of these proto-towns included a mosque and signs of Islamic burials. By the later part of this transition period, some building in stone, mostly of public buildings rather than dwellings, is apparent in the archaeological record. There is also an increase in the amount of imported ceramics and beads and, at least in some places, the imported ceramics are much more prolific in the emerging towns and much less prolific in the hinterlands. This has been interpreted as evidence that the emerging towns had access to foreign trade goods, which they kept for themselves rather than passing them on to trade partners in the interior. This habit suggests to some archaeologists that imported ceramics served as more than just a marker of status. Rather, this practice, and the trade system it represented, may have served to create a hierarchy among and within settlements.[6]

Ethnographic studies of the Swahili in the last 200 years indicate that modern Swahili society is quite hierarchical. Swahili stone towns are

divided socially between patricians (*Waungwana*) and commoners and these groups live in segregated neighbourhoods. Even the country towns that lack a patrician class and stone buildings are divided into moieties, which compete with each other and occupy separate halves of town. There is some evidence for residential segregation in the early Swahili towns. One site has been found with a wall dividing the town in half, and several towns have multiple gates and residential areas that seem to be linked to separate clans.[7]

Perhaps the most interesting evidence for the emergence of hierarchy is a change in the shape of the ceramics found at Swahili sites. Ceramic vessels with narrow tops and decorated exteriors (which appear to be jars) disappear from the record and are replaced by flatter vessels with their inner surfaces decorated (palates). The current thinking on this is that it represents a change in how people consumed their food and what food they consumed. The jars are thought to have been used for serving liquid preparations, perhaps millet gruel or beer, and the highly decorated and often imported plates are thought to have been used for serving more solid food, quite possibly rice. It is also argued that the shift to flatter, more plate-like serving vessels also represents an emphasis on the public display of food and that this might be linked to feasting. And feasting, which serves both to display wealth and to create social obligations between guests and hosts, might well be linked to the emergence of a Swahili patrician class.[8] Because the natural habitat of patricians is the town, the idea is that this privileged access to foreign trade goods created an elite social class, with new ways of consuming new foods, and that this elite played a central role in the creation of towns and their monumental architecture.

Rice and Swahili towns

The earliest archaeobotanical evidence for rice in East Africa comes from the Comoros Islands and from Pemba Island and dates from the 8th century. In both places rice is found in association with another introduced Asian crop, the coconut. Rice and coconut seem to be a sort of package that is central to Swahili agriculture and cuisine (rice is usually cooked in coconut milk). Within a couple of centuries of the first appearance of rice in the archaeological record, it became the dominant cereal crop of the Swahili coast (if the evidence from the islands proves to be applicable to the coast also), consumed, it would seem, in both stone towns and villages.[9]

The transition to rice as a staple food is best documented in the work of Sarah Walshaw, who did pioneering archaeobotanical work on

Swahili sites on the island of Pemba. Walshaw has shown that around 1000 CE, at the same time that towns were emerging on Pemba, their inhabitants made a shift from eating millet to eating rice. It is not clear that this shift also occurred on the mainland, but on the island of Pemba there was a near total replacement of millet by rice. Millet, an 'African' crop, was replaced by rice, an Asian crop, at the same time that coastal people were adopting other 'Asian' or Indian Ocean derived cultural habits. Thus it seems that rice was an identity crop; a crop that did not just provide calories, but also said something about the person who ate it. The other intriguing thing that Walshaw's work has shown is that rice cultivation on the island of Pemba took place at the household level. Even urban households seem to have produced and processed their own rice. There is no evidence that rice was produced for the market. For the Swahili of Pemba, a people involved in long-distance trade with Asia and the African mainland, rice does not seem to have been treated as a commodity.[10]

At present we have no direct knowledge of how rice was grown on the Swahili coast. There is virtually no literature on Swahili farming, save for the plantation systems of the 19th century, and even then it is more the social relationships associated with slavery that are of primary interest rather than agronomy.[11] Thus far, scholarly interest in the Swahili has focused on urbanism and not on 'rural' topics like farming.

What little is known about rice production in East Africa suggests that it did not follow what might be called an 'Asian' pattern. Rice production in East Africa is extensive rather than intensive. When one sees wet rice under cultivation in the islands now, it is in natural low spots that fill with water during the rains. Farmers in the islands and on the mainland also create bunds to hold rainwater in their fields. However, there is no evidence for irrigated rice production in either the ethnographic or archaeological record. Jamie Monson noted that rice farmers in the Kilombero valley of Tanzania, where rice was probably introduced in the 19th century, dig ditches to improve drainage in their fields, but do not irrigate.[12] My observations of rice farmers in East Africa suggest that rice is usually broadcast sown directly in the fields or drilled in rows. Farmers will occasionally transplant seedlings, mostly to fill gaps in their fields. Even in recent times, when a liberalised market for rice has driven up prices, farmers have expanded the area they have under cultivation rather than trying to use existing plots more intensively.[13] This is doubly perplexing when one considers that that there is evidence of the use of irrigation for other crops prior to the 19th century in other regions of Tanzania.[14]

Rice and hierarchy on the Swahili coast

The relationship between rice and the emergence of social hierarchy on the coast is puzzling. Clearly the switch from millet to rice coincides with the emergence of bigger towns, imported ceramics and stone buildings. It also coincides with new types of ceramic vessels that might be better suited to serving rice than millet and that may be associated with the display of food. Walshaw has suggested that as Swahili Islam became more concerned with orthodoxy, rice came to be preferred over millet beer, but it is perfectly possible to eat millet or sorghum gruel unfermented and there is no convincing reason to believe that Swahili Islam made any big move towards orthodoxy at the time that rice emerged as the preferred grain.[15] Indeed, the record indicates that Islam was deeply rooted on the coast prior to 1000, when the transition from millet to rice and from jars to platters/plates occurred.[16] Furthermore, there are numerous examples from other parts of the continent of millet beer being used in social display in much the same way that it is proposed that rice was used by the emerging Swahili elite. It is also possible to eat millet and sorghum as *ugali* (the ubiquitous stiff porridge of the region) or to eat rice gruel, which is a staple in Madagascar. So rice is not inherently more Islamic than millet, nor is it inherently better suited to social display.

Another possibility is that rice contributed to the urbanisation of the coast because it has higher yields than millet. In the 1960s, rice in East Africa yielded 1.74 tonnes per hectare.[17] By contrast, millet yields from the same period (in India) were 350 kg to 400 kg per hectare.[18] Thus there may have been a significant increase in food production related to the switch from millet to rice. However, rice requires more moisture and better soil than millet, which will grow under marginal conditions. So even with an increase in yield per hectare, there may have been less suitable land available for rice production and therefore little effect on the total calories produced. Furthermore the apparent unwillingness of Swahili farmers to pursue intensification through irrigation or the transplanting of seedlings suggests that producing more food was not the only force behind the preference for rice after 1000 CE.

The Swahili coast and its relationship with rice present a sort of paradox. Here you have a hierarchical urban society that seems to have gone through a mass adoption of rice after 1000 CE, at which time the scale of its towns grew and the spread of stone-built houses suggests that social hierarchy increased. But, as best as anyone can tell, the Swahili resolutely resisted agricultural intensification and centralised distribution of

food. It is also noteworthy that the scale of the state on the Swahili coast never grew beyond the city state. While the bigger towns engaged in intense rivalries, they do not seem to have subordinated each other over the long term. There were no empires or even territorially expansive states.

The Swahili 'state'

At the same time the Swahili adopted rice as their preferred staple, they accepted Islam and the literacy that comes with it. With a high-yielding crop like rice, the ability to maintain records and clear desire for social display by the elite, one would think that all the ingredients would be in place for the creation of centralised states. Rice production might have been harnessed and directed by ambitious rulers to create much more elaborate public buildings. Some Swahili towns were even close to river mouths and might have harnessed the agricultural potential of the river valleys.

States that behaved this way were reasonably common in early modern South East Asia. The 'padi state', as James Scott and others have described it, extracted the agricultural surplus from wet rice production on the river valleys of South East Asia. The income from this supported court life that revolved around semi-divine kings. The Swahili coast is similar in many respects to South East Asia: both occupy similar tropical environments, both were on the periphery of the Indian Ocean economy, and in both elites made extensive use of imported religious ideology to bolder their places in the social and economic hierarchy. Thus it seems entirely possible that Swahili elites might have devised something comparable to the South East Asia padi state.[19]

But none of this happened. Kilwa, which was the largest of the Swahili towns and is near the mouth of the largest river in the region, offers an interesting window onto the limits that seem to be inherent in Swahili state building. Kilwa contained a number of large stone houses occupied by elite merchants and larger areas of wattle and daub houses for the commoners. In addition to these domestic structures there were a number of prominent public buildings in Kilwa. The most famous of these were the *Husuni Kubwa* and the Great Mosque. Every Swahili city had a congregational mosque, where the city's Muslims could all pray together on Fridays, but none could claim anything on the scale of Kilwa's Great Mosque. Kilwa's Great Mosque was first built in the 12th century, but went through a major expansion in the reign of the sultan Hasan bin Sulaiman in the 1330s. It had a barrel-vaulted ceiling and a

dome that was probably the first true dome constructed in East Africa and which remained the coast's largest dome until the 19th century. When it was completed it was the largest enclosed space south of the Sahara.[20]

While the Great Mosque is simply a larger and grander version of a type of building found in any Swahili city, the *Husuni Kubwa* has no real parallels in other coastal cities. It is a royal palace, but built on a staggering scale. It has multiple levels, courtyards, a water basin large enough that some archaeologists call it the swimming pool, vast storage areas and a complex of apartments that all surround a large courtyard. It appears that Hasan bin Sulaiman was building a royal palace that was not only a visible symbol of his wealth and power, but also a place that might house many visiting merchants and their trade goods. The word *husn* from which *Husuni* derives is an Arabic word that refers to storage. *Kubwa* is the Swahili word for big. The *Husuni Kubwa* was thus the big storehouse. The courtyard surrounded by apartments seems to have been intended as a place where visiting merchants could live and trade as guests of the sultan. Its scale suggests that Hasan may have intended to monopolise part of the city's trade. If that was his intention, he failed. The building was never finished. The usual interpretation of this is that the city's patrician class was not pleased with this effort to infringe on their rights and they put a stop to it.[21] It is noteworthy that Hasan, the most ambitious of Swahili kings, sought to control trade, but he did not attempt to monopolise or concentrate agricultural production. Rice may have been central to the Swahili diet, but it does not seem to have been subject to collection or concentration, even for an anomalous character like Hasan bin Sulaiman. If anyone had the potential to create an East African version of the padi state, it was Hasan, but his attempt at self-aggrandisement took the form of becoming Kilwa's dominant trader – not rent collector in chief.

That Hasan bin Sulaiman attempted to build so grand a palace was quite out of the ordinary in Swahili towns. In the ruins of many Swahili towns it is difficult for archaeologists to determine which house belonged to the ruler, and often they end up designating a house that is slightly larger than the others as a 'palace'. Some Swahili towns treated their rulers with elaborate deference: some were carried by slaves in a bed when they left their homes and were preceded by men playing *siwas*, which are side-blown horns made from elephant tusks. The last Swahili ruler of Zanzibar, the *Mwinyi Mkuu*, was approached by his subjects on their hands and knees. Some Swahili rulers were also seen as sources of magical power. When the *Mwinyi Mkuu* was imprisoned by the Omani Arabs who took over Zanzibar in the 19th century, it did not rain until

he was released. However, the *Mwinyi Mkuu's* palace, while structurally different from other houses in that it had an audience chamber, is hardly vast. It is only a bit bigger than the typical merchant's house. Even in places where kings were treated with great deference, they were usually selected by their peers, rather than inheriting the office on strictly hereditary terms. Other Swahili towns, like those on the north coast of Kenya, have no tradition of kingship at all. They were oligarchies ruled by their patrician families. Even the towns that had kings and treated them with deference often went for long periods without kings, suggesting that kings were hardly essential to the functioning of society.[22] The Swahili ambivalence to the centralised state may derive from the predominance of stateless societies in the region. Stateless or acephalous societies sometimes function on a surprisingly large scale without a formal state. There is no tax collection, no hereditary power, and while the opinions of some outweigh those of others, there are no formal offices of government.

Nowhere on the coast does there seem to have been an effort to concentrate agricultural production. While Swahili merchants bought and sold all manner of goods and at times imported grains, the state never seems to have tried to control or tax rice production or any other food crop.

Rice, towns and the state

The Swahili world that emerged after 1000 CE had most of the outward appearance of a conventional state. There was social and economic hierarchy; there was monumental architecture, literacy and coinage. There were people who claimed the title of sultan. At the same time, however, many basic features of the state were missing. There is no evidence that the state was able to command or control the labour of its subjects. Large-scale construction projects like the great mosque at Kilwa or the *Husuni Kubwa* required that a reasonable number of workers be recruited and fed, but there is no evidence that the Swahili city states collected or taxed agricultural surplus. Nor is there evidence of marketplaces. Jeffery Fleisher has observed that in all the Swahili sites that have been excavated, nothing has been found that appears to be a public market. Rather it appears that, like food production, the trade that the Swahili are famous for took place at the household level.[23] The *Husuni Kubwa* appears to be a giant version of a Swahili household that would have allowed its occupant to vastly expand the number of his personal trade partners. It was quantitatively different from a typical patrician merchant's house, not qualitatively different.

On some levels the Swahili town had the appearance but not the substance of a state. The Swahili also had a crop, rice, that under most circumstances (for example the South East Asian padi state) would have become a commodity taxed by the state. Instead, rice seems to have become a prop in an elaborate theatre of sophistication and hierarchy. Because rice, like Islam, stone houses and imported ceramics, evoked worldliness, its appeal seems to have been the status it offered to those who consumed it. It helped to produce Swahili hierarchy not by providing a taxable agricultural surplus, but through its part in a theatre of power and status. Rice and the other trappings of worldly sophistication that characterised Swahili society served to distinguish the Swahili elite from their inferiors, and to separate the Swahili as a group from their neighbours in the interior. Until the 19th century, rice was exclusively a food of coastal people. Rice was an anti-commodity in an anti-state.

Rice and 19th-century plantations and caravans

Oddly there is little evidence for how rice was grown on the coast during the 19th century. Rice features in travellers' descriptions of what they ate, but even normally acute observers like Richard Burton, who described rice in the interior and the clove and coconut plantations of the coast, had little to say about rice production on the coast. I presume that this is because rice continued to be grown on small-scale household plots that seemed utterly unremarkable to foreign observers.[24]

Rice's role as a marker of coastal identity and a status food is evident on the caravan routes that linked the coast to the interior. Early in the 19th century the *Nyamwezi* and *Yao* peoples opened trade routes that linked the Great Lakes region of east-central Africa with the booming economy of the Indian Ocean. The demand for ivory and slaves created a network of caravan routes that were initially followed primarily by the *Yao* and *Nyamwezi*. By the middle of the 19th century coastal people had begun to venture into the interior also, and there were Swahili, Arab and Indian (and it's worth noting that distinctions between these groups are fuzzy at best) in what is now central Tanzania. By the second half of the century there were coastal people living west of the lakes in what is now Eastern Congo. These communities all grew their own rice and seem to have placed a particular value on the white varieties.

Richard Burton, whose expedition of 1857–58 made him the first European observer to reach the Great Lakes region, noted the presence of rice on the coastal strip. His description of coastal agriculture includes crops from all over the world. Coastal farmers had American crops like

tobacco, maize, manioc, pineapple and sweet potatoes. They had Asian crops like mangoes, plantain (though I think he may have seen cooking bananas rather than plantain), limes and sesame. Rice, he says, 'grows in abundantly in the lowlands'. Interestingly, the only African crop he mentions in the coastal repertoire is sorghum.[25]

As he travels inland, rice disappears from his descriptions of the agricultural landscape. Even along the banks of rivers and other places that he describes as wet, rice is not present. As he passes through Usagara and Ugogo he describes areas of 'extensive cultivation', but never mentions rice. He does occasionally obtain rice, but always from people he describes as Arabs leading caravans returning to the coast from the west.[26]

However, once he reaches Unyamwezi, rice appears in his description of local produce. At Kazeh, he mentions locally grown rice and that paddy (unhulled rice) can be purchased, but at a price triple that of sorghum, which he describes as the 'staff of life' in the region.[27] At Msene in western Unyamwezi he also finds rice. In the midst of a glowing description of the productivity of the land, he says, 'Rice of the red quality – the white is rare and dear – grows with a density and rapidity unknown in eastern Unyamwezi'.[28] At Ujiji, on the shores of Lake Tanganyika, he says that the Arabs once cultivated rice 'of excellent quality' successfully, but 'the inhabitants [. . .] [are] preferring sorghum, and wearied of the depredations the monkey, the elephant, and the hippopotamus, have allowed the more civilised cereal to degenerate'.[29]

Whether this means that rice was no longer cultivated in Ujiji when Burton got there, or that only 'degenerate' rice (maybe red rice?) was cultivated, is unclear.

What is clear is that Burton associated rice with the presence of coastal people. In Usagara and Ugogo, there were no Arab settlements and no rice. By contrast, there was a significant Arab presence in Unyamwezi and at Ujiji, and with them came rice. The overall sense one gets from Burton's description of agriculture in the region is that rice was a luxury food grown by the coastal settlers for their own consumption. In 1857 sorghum was the staff of life, not rice.

Henry Morton Stanley's transcontinental journey of 1874–77 took him through much of the same territory that Burton had covered, and then by way of the Congo River to the Atlantic. Stanley mentions rice as a luxury at Ujiji. He offers a long list of food prices at Ujiji, but rice is not on the list, presumably because it was too expensive to serve as provisioning for the caravans. He also mentions that rice was formerly more widely cultivated at Ujiji but offers a

different explanation than Burton for its diminished importance there. He maintains that rising water levels on the lake permanently flooded the Arabs' rice fields. Two decades after Burton's visit, Stanley, like Burton, found rice to be a luxury associated with coastal settlers in the interior.[30]

On his journey to the west Stanley stopped in Nyangwe, hundreds of miles west of the region that Burton visited, a town on the Lualaba River, which is a tributary of the Congo. He describes it as the westernmost outpost of the Zanzibar Arabs. At Nyangwe, décrue rice was cultivated in a low valley that filled with water when the river flooded. As at Ujiji, he offers a list of goods for sale at Nyangwe that includes maize, millet, yams and sweet potatoes, but not rice. Again it seems that rice is a luxury food for the Arab settlers and not a staple of the caravan trade. In his description of Nyangwe, Stanley makes an interesting digression about the coastal people who have settled in the interior and their tendency to introduce coastal food crops for their own use:

> The Arabs, wherever they settle throughout Africa, endeavour to introduce the seeds of the vegetables and fruit-trees which grow in their beloved island Zanzibar. At Unyanyembe, therefore, they have planted papayas, sweetmeats, mangoes, lemons, custard apples, pomegranates, and have sown wheat and rice in abundance. At Ujiji also they have pawpaws, sweet limes, pomegranates, lemons, wheat, rice and onions. At Nyangwe their fruit consists of pineapples, pawpaws, and pomegranates. They have succeeded admirably in their rice both at Nyagwe, Kasongo's, and Mwana Mamba's.[31]

This is not a completely credible account. It is hard to believe that Zanzibar Arabs were growing wheat, which was not cultivated in Zanzibar, at their outposts in the interior, but Stanley forthrightly states something that seems to be implicit in Burton – that the coastal Arabs were the agents for the spread of coastal crops into what is now Tanzania and the far eastern edge of Congo. It is also possible that Burton and Stanley, imbued as they were with the standard ideas of their time about race, may have been predisposed to attribute agency to the Arabs in preference to Africans, but that both of them consistently mention rice in the context of Arabs and Arab settlements suggests that they may be on to something. It appears that the rice initially spread into the interior along the caravan routes as Zanzibari Arabs tried to provide themselves with familiar foods in the far-off places that their business interests put them.

All of this suggests that rice was as closely tied to coastal ideas about coastal identity in the 19th century as it was during the peak of the 'medieval' Swahili world. Rice was still as much a prop in the theatre of hierarchy as it was a commodity.

Rice in colonial Zanzibar

By 1890 the British had taken control of the islands of Zanzibar and Pemba and the Germans were in control of the mainland. In Zanzibar, the colonial state was primarily interested in the clove industry, which was then the backbone of the economy. Cloves were a commodity in every sense of the word. The clove sector was supported by the state with investment in infrastructure, agricultural research, a marketing board and constant handwringing by colonial officials. By contrast, rice only came to the attention of the state occasionally, usually during food shortages. Thus during both world wars and especially during the lingering post-war food crisis of the 1950s, the Zanzibar government noticed rice. The observations of colonial officials during this period suggest that the unusual, un-commodified nature of rice that was characteristic of earlier periods had persisted into the 20th century.

The islands consumed more rice than they produced; imports made up the balance between local production and consumption. Zanzibar towns relied mostly on imports because there was almost no market for local rice. In the countryside, rice production appears to have waxed and waned as wages in the clove industry went up and down. When wages were good, local rice production decreased because people chose wage labour over subsistence farming. When wages in the clove industry went down, people reverted to rice farming. In this sense, rice was a sort of parallel crop to cloves, giving labourers an economic cushion when clove prices were low.[32]

At the same time, rice retained its cultural significance. People preferred it to other staple foods, and several people told me that there remains a strong preference for local rice over imported, whether 'imported' means rice from Asia or the Tanzanian mainland. Apparently many of the local varieties are aromatics and have distinctive flavours that imported rice cannot match.[33] Despite the colonial era preference for rice in general and local rice in particular, the market for locally grown rice was minor. It is still virtually impossible to purchase locally grown rice in Zanzibar. Rice remained a household crop that people grew for their own use. And even when food was in short supply, they did not grow that much of it. During the Second World War the authorities in

Zanzibar instituted a forced cultivation scheme that compelled anyone without formal employment to grow rice. The programme was unpopular and not terribly effective, but it does suggest that rice production was not strongly linked to market forces.

In the 1950s the British tried to introduce tractors to rice cultivation on the islands with mixed results. The scale of the farms was not well suited to the tractors and getting farmers to consolidate plots to facilitate the use of tractors was difficult. In 1955, during one of the many discussions within the Agriculture Department concerning the tractor scheme, the Registrar of Cooperative Societies made the following observation about rice farming:

> I am constantly struck by the fact that rice cultivation here is almost as much a social phenomenon as economic or agricultural involving as it does in Zanzibar a temporary migration to the rice fields. As an old farmer said to me last Saturday in the middle of Chejuu: 'Don't talk about profits to me; we're here because it's good for us all to come out from the village to work as a family – my wives and children and I. The pigs are a damned nuisance, the birds a nightmare, and the tractor will swallow half the proceeds of the crop; but I always have to come out and I always will.'[34]

Growing rice, like eating rice, was about more than just income or calories. It was about identity and even family values rather than markets and income.

Swahili rice as anti-commodity

Rice was not a conventional commodity on the Swahili coast. During both the mediaeval peak of the Swahili world and the plantation-dominated coastal world of the 19th century, rice was central to ideas about identity and status but never commercially important. Rice was valued less for the calories it provided and more for the status it conferred on those who ate it. Rice eating demonstrated that one was associated with the prestigious societies of South and South West Asia.

At the same time, it does not fulfil one characteristic of the anti-commodity (at least as I understand it). Except insofar as social hierarchy played a role in enabling the plantation complex, rice was not essential to the production of the commodities that the East African coast furnished to the emerging global economy of the 19th century. Rice was not the fuel that fed the slaves and later the squatters who did the

work on the clove plantations. Slaves ate, and often cultivated, foods like cassava or sorghum.

Rather, rice was and is sufficiently tied to identity that locally produced rice has never been treated as a commodity. Rice was consumed because it evoked the cosmopolitan world of the Indian Ocean, in much the same way that Islam or imported ceramics did. Like the Swahili state and the Swahili city, both of which had the outward appearance of their Eurasian counterparts but lacked most of the substance, the Swahili grew and ate rice but did so differently than most Asian societies did. The Swahili were engaged in long-distance trade for centuries. Coastal people eventually got involved in the commodified food production of both grain and cloves, but somehow rice continued to occupy a crucial social role without becoming economically important. Unlike most crops or products that we have described as anti-commodities, rice was important to both those in power and those without power.

The precolonial Swahili world was an anomalous place. It had towns full of merchants but no marketplaces. It had kings, but could function without them. It had stone towns that looked urban, but functioned more like villages. It produced rice, but never taxed or concentrated it. As first the Omanis and then Europeans moved into the region, most of that came to an end. The state became stronger and more coercive. Taxes were levied on agricultural produce. Marketplaces developed. The only surviving relic of the older, precolonial Swahili world is their attitude towards rice. In that sense, rice represents a type of anti-commodity.

Notes

1. W. T. W. Morgan (1980) 'Tamilnad and eastern Tanzania: Comparative regional geography and the historical development process' *Geographical Journal*, 154 (1), 69–86.
2. F. Kato (2007) 'Development of a major rice cultivation area in the Kilombero valley, Tanzania' *African Study Monographs,* 36, 3–18.
3. J. Kirkman (1954) *The Arab City of Gedi* (London: Oxford University Press).
4. J. d. V. Allen (1993) *Swahili Origins: Swahili Culture and the Shungwaya Phenomenon* (London: James Currey) and D. Nurse and T. Spear (1985) *The Swahilli* (Philadelphia: University of Pennsylvania Press).
5. T. Spear (2000) 'Early Swahili history reconsidered' *International Journal of African Historical Studies,* 33 (2), 257–90.
6. S. Wynne-Jones (2007) 'Creating urban communities at Kilwa Kisiwani, Tanzania, AD 800–1300' *Antiquity,* 81(Pt 312), 360–8.
7. M. Horton and J. Middleton (2000) *The Swahili* (Oxford: Blackwell).
8. Wynne-Jones (2007).

9. S. C. Walshaw (2005) *Swahili Urbanization, Trade and Food Production: Botanical Perspectives from Pemba Island, Tanzania, AD 600–1500*, dissertation, Washington University.
10. S. C. Walshaw (2010) 'Converting to rice: Urbanization, Islamization, and crops on Pemba Island Tanzania, AD 700–1500' *World Archaeology*, 42 (1), 137–54.
11. F. Cooper (1980) *From Slaves to Squatters* (New Haven, CT: Yale University Press).
12. J. Monson (1991) *Agricultural Transformation in the Inner Kilombero*, dissertation, University of California Los Angeles.
13. Kato (2007).
14. L. Borjeson (2004) 'The history of Iraqi intensive agriculture' and J. E. G. Sutton (2004) 'Engaruka' in M. Widgren and J. E. G. Sutton (eds), *Islands of Intensive Agriculture in Eastern Africa* (Oxford: James Currey).
15. Walshaw, 'Converting to rice', p. 249.
16. Horton and Middleton, *The Swahili*, p. 49.
17. Africa Rice Center (2007) 'Africa rice trends' (Benin: Africa Rice Center) 2007, p. 27.
18. C. McDonough (2000) 'The Millets' in K. Kulip and J. Ponte (eds), *Handbook of Cereal Science and Technology* (New York: CRC Press), p. 117.
19. J. C. Scott (2009) *The Art of Not Being Governed: An Anarchist History of Upland Southeast Asia* (New Haven, CT: Yale University Press), p. 245.
20. Horton and Middleton (2000).
21. Ibid.
22. Ibid.
23. J. Fleisher (2010) *Housing the Market: Swahili Merchants and Regional Marketing on the Swahili Coast, Seventh to Sixteenth Centuries* (, Boulder, CO: University Press of Colorado), pp. 141–59.
24. R. F. Burton (1872) *Zanzibar City Island and Coast* (London: Tinsely).
25. R. F. Burton (1995) *The Lake Regions of Central Africa* (New York: Dover), p. 85 (originally published 1860 by Harper: New York).
26. Ibid., p. 188.
27. Ibid., pp. 226, 232.
28. Ibid., p. 270.
29. Ibid., p. 316.
30. Ibid., pp. 117, 121.
31. H. M. Stanley (1969) *Through the Dark Continent*, vol. 2 (New York: Greenwood), p. 123 (originally published 1878).
32. Zanzibar National Archives, AU6/124, District Agricultural Officers Monthly Report for August 1957.
33. Local rice varieties are aromatics in the sense that they have distinctive aromas. They are probably not aromatics in the sense of being genetically affiliated with the basmati and jasmine rices. Most coastal rices are tropical japonicas.
34. Zanzibar National Archives, AB4/98, Registrar of Cooperative Societies to Development Secretary, 8 July 1955.

9

‘Shun the White Man’s Crop’: Shangwe Grievances, Religious Leaders and Cotton Cultivation in North-Western Zimbabwe

Simeon Maravanyika

Introduction

Some scholars have characterised colonial African history as a continuous ‘dialogue between colonial officials and the African societies they sought to dominate’.[1] A major challenge the colonial system posed to itself was the control over ‘local ritual authority’.[2] Colonial functionaries, in concert with Christian missionaries, sought to subjugate traditional religion and traditional religious leaders by reducing their authority and influence over their communities. This was because local religious traditions were oftentimes perceived to delay and impede both the spread of Christian values and formalisation and entrenchment of the preferred colonial economic mode of state formation. African agriculture was a major site of struggle in this process. Colonial officials perceived that traditional religion undermined ‘civilised, scientific agriculture’ while, on the contrary, the state saw a positive link between Christian teaching and African productivity and therefore growth and expansion of the colonial economy.[3]

African communities, on their part, also held a negative view of colonial policies and methods and viewed them with suspicion, perceiving them to be driven by the state’s desire to redirect and control indigenous production for its benefit, at their expense.[4] Consequently, local ritual authority was often at the forefront in providing leadership to communities in confronting colonial policies – not just those targeted at religion, education or health and medicine, but also policies for the

agrarian sector.[5] African commodity studies accurately portray colonial policies as having fuelled rural anti-state sentiments, provoking peasant resistance in many communities.[6] In this chapter the nature of that resistance is further examined by using the notion of anti-commodity. This notion highlights resistance as a way of organising production differently or producing items other than those imposed by the colonial policies. More specifically, it examines the role of religious leaders and how they provide a rationale for not giving up particular forms of agricultural production or the production of items not prescribed by the colonial powers.

Little attention has been given to the role of African traditional religion and religious leaders in shaping responses to colonial commodity policies. Allen Isaacman provides an explanation for this gap in the literature on the role of religion in confronting colonial agricultural policies: the majority of scholars working on rural colonial agrarian history have long focused their attention on colonial archives, colonial publications and interviews with former colonial officials and educated Africans, at the expense of the farmers.[7] This focus on the official voice has resulted in African farmers' voices being glaringly absent in most of the literature, thus resulting in commodity histories that are crusted over with racial and class prejudices, almost invariably ignoring or partially distorting the resistance of the rural poor.[8] Farmers' agency has also often been erroneously interpreted, with actions such as feigning illness, illegal intercropping and sabotage usually attributed by colonial officials to the lazy and uneconomic nature, ignorance, backwardness or incompetence of African farmers. Africanist scholars now reinterpret such actions to have been sustainable, well-thought-out and often economically gainful forms of resistance.[9]

The focus of this chapter is on the Shangwe, a group of people originally living in Gokwe, in north-west Zimbabwe, and in particular the role of traditional religious leaders in shaping Shangwe responses to colonial domination. This is significant, considering that African religious expressions pertaining to commodity production and participation in the agrarian commodity market have largely remained unexplored. Shangwe religious leaders took a leading role in de-campaigning cotton production, aided by religion's mass appeal as well as its capacity to keep the adventurous, especially the young, under check because of the spiritual authority given to the leaders by their status. The religious establishment itself had its own interests; it saw competition in the new order and the possibility of being vanquished. Secondly, in addition to the role of religious leaders, the article also examines Shangwe anti-commodity responses as a product of socio-economic dynamics

of the time. This is because, while at face value, resistance to cotton production was indeed a product of Shangwe religious leaders' exhortation to local communities not to grow a 'white man's crop' in order to avoid incurring the ancestors' wrath, the religious factor alone cannot explain Shangwe economic decisions in relation to cotton in the 1960s and 1970s.

The anti-commodity can only be understood in the context of what the commodity meant. Commoditisation, for the Shangwe, was not just about the introduction of cotton. It was an extensive package that encapsulated, from the 1950s onwards, relocation of Madheruka farmers, people expelled from land designated for white commercial farms, into Gokwe, which resulted in increased conflict over land and over the two groups' cultural differences. The changes in the area included restrictions on access to Mafungautsi forest, home to the Shangwe, in 1960 by the Rhodesia Forestry Service, supposedly for its preservation, which spawned land shortage and widespread resentment. Together with the introduction of Christianity and the colonial education system, this formed the backbone of modernising programmes to open up 'backward' Gokwe and the general reshuffling of local social and economic conditions. This environment, in the absence of concrete extension and demonstration services, capital and genuine attempts to redress Shangwe grievances, especially over their ancestral land, was fertile for locals to embrace whomever could lead them in the fight for economic reprieve, as happened with the Shangwe religious establishment.

The anti-commodity concept helps to overcome a portrayal of African farmers as victims of colonial processes by illuminating farmers' agency and resilience, including their ability to resourcefully utilise local institutions, such as the religious leadership, in pursuit of their interests. African anti-commodity responses further demonstrate that colonial commodity policy was not the only factor that determined agrarian outcomes in African communities.

This chapter is based on archival and library research, interviews and participant observation.[10] Published articles covering various aspects of Zimbabwean history were utilised while interviews, using a predesigned questionnaire, were also conducted in Mafa, Matashu and Maruta villages in Mbumbuze, Gokwe South, between August 2010 and April 2012. Though this article focuses on the three named villages, interviews were also conducted to gather supplementary data from Rumhumha and Takaendesa villages, which are settled by Madheruka, Makuwerere village in Sengwa, Tare Township and Mandava village in Svisvi, where Shadrick Silemba, one of the most highly esteemed spirit mediums in Mbumbuze, has relocated in protest over cotton cultivation

by his neighbours and desecration of a piece of sacred forested land, *chiera* (holy land), near his old home by Christian apostolic sects and land-hungry farmers. A great deal of knowledge about Mbumbuze and Shangwe anti-commodity production was also generated by participant observation, as the author stayed in Gokwe for close to 18 months, interacting with community members on a daily basis.

Denigration of African religion and farming methods

Land and agrarian policies in colonial Zimbabwe were shaped by the state's desire to set aside the most fertile land for European use and comparatively resource-poor Reserves for Africans. The colonial administration denigrated African agriculture and spiritual culture for their perceived primitiveness, ignorance and superstition.[11] The level of denigration is well documented in reports of colonial agricultural officials, particularly Emory Alvord, the colony's first Chief Agriculturalist Responsible for the Instruction of Natives, whose long tenure at the Department of Native Affairs spanned the period from 1926 to 1950. Alvord, an American agronomist and missionary, exhibited deep contempt for African agriculture and religion.

> The heathen African [digs] his land while standing trees, skeletons, stumps and fallen trees [are] scattered all about, he wrote, '[and] . . . he [plants] the seed and [trusts] the witchdoctors, rainmakers, ancestral spirits and demons to do the rest . . . if those people could only be taught the Gospel of the Plow! [sic].'[12] Alvord characterised Africans as 'inordinate beer drinkers', 'heathens', 'grossly immoral', 'incredibly steeped in superstition', 'wasteful, slovenly [and] ineffective' and ruinous to the future interests of Rhodesia.[13]

Apart from his contempt for African methods and traditions, Alvord is remembered for styling his mission for improved African agriculture as 'the gospel of the plough'. His gospel envisioned a new form of modern, civilising agriculture to correct what he perceived as the backward and destructive systems of the past.[14] This, for Alvord, included sweeping aside traditional religion and loosening its grip on Africans. While indeed African religious leaders played important roles in African agriculture, colonial authorities did not attempt to either understand or contextualise their work and its efficacy. Alvord was more interested in destroying the validity of indigenous agricultural practices rooted in African mysticism for two main reasons.[15] Firstly, he sought to use his

official position to convert Africans to the Christian faith, as for him, the gospel of Christ and the gospel of the plough were, in essence, the same gospel.[16] The second motivation was the dictates of colonial Native Policy. The Native Affairs department sought to intensify African food and cash crop production in the Reserves and the utilisation of modern conservation methods.[17] This was intended to make Africans produce more crops per acre on their small allocations in the Reserves in order to pre-empt and forestall African demands for more land in the future, as well as to reduce the rural poverty that was causing an undesired influx of Africans into urban areas and radicalisation in the countryside.[18] It was with such an official mindset that cotton was introduced in Gokwe in 1962.

The Shangwe and the introduction of cotton

The term Shangwe is commonly used to denote indigenous people of Gokwe. It is not an ethnic label, but a derogatory term that was coined and used by immigrants and colonial officials to depict indigenous people as backward, primitive, resistant to change and 'the anti-modern, rhetorical foil against which progress and prosperity could be measured and attained'.[19] The Shangwe in turn named the incoming Shona master-farmers who were forcibly relocated from land designated for white farms Madheruka, a derogatory onomatopoetic word intended to evoke the sound of the lorry engines that brought them to Gokwe.[20] Prior to the 1950s the Shangwe lived undisturbed because tsetse-fly, malaria and wild animals and arid conditions made the Gokwe region unattractive for settlement by white people and the predominant Shona and Ndebele groups.[21]

The Shangwe did not farm on a significant scale; they only grew a little maize alongside riverbanks for local consumption. Hunting and gathering were probably the major economic activities, as there was a large supply of game and forest products in their Mafungautsi forest habitat. They also kept cattle.[22] The 1950s, however, marked a turning point for Shangwe livelihoods. From 1953 Madheruka farmers were forcibly resettled in Gokwe by the colonial government to make way for white farmers in Rhodesdale, and the influx of immigrants has basically never stopped.[23] Mafungautsi forest, home to the Shangwe, was gazetted a state-protected forest in 1954, precipitating evictions and resettlement on marginal land in Mbumbuze. This process was complete by the end of 1960.[24] It is in this context of eviction, relocation and influx of immigrants that cotton was introduced in 1962.

Madheruka farmers embraced this new opportunity and took up cotton cultivation enthusiastically, while the Shangwe were reluctant to embrace the crop, owing in part to exhortation by traditional religious leaders not to grow the crop, and mainly to the fact that there was no serious attempt by the state to accustom this community to the vicissitudes of commercial crop production. While Madheruka had been large-scale maize farmers in Rhodesdale and other areas, and had been exposed to colonial education, the situation was the exact opposite for the Shangwe. Deprived of their forestland and forest-based livelihood system, relocated to what they viewed as marginal land, with little agricultural knowledge and no capital, Shangwe farmers probably had no chance to succeed as competitive cotton farmers. This made it unwise for the Shangwe to embrace the crop.

Introduction of cotton represented a major reshuffling of Shangwe social and economic conditions, a challenge the Shangwe were not well equipped to surmount from the onset.[25] Cotton did not represent an economic lifeline for the majority of the Shangwe. The villagers from Mafa, Matashu and Maruta to this day continue to struggle to reclaim their old forest home, with little success.[26] The forest is still very significant for the villagers as, over 50 years after the introduction of cotton in Gokwe, a significant portion of the impoverished Shangwe still view a return to their old forest life as something that might improve their economic status. The forest still provides grazing for Shangwe livestock and products such as firewood, honey, broom and thatch grass and game. They harvest these products illegally in the majority of cases and poach for game meat. The forest also has a religious significance, as important Shangwe religious shrines and sacred sites are located in the forest.

Gokwe had a prominent place in colonial policy. It was viewed as having a huge potential to be one of the country's major cotton-growing centres because the plant is indigenous to the Zambezi valley, which shares a border and similar climatic conditions with Gokwe district.[27] Gokwe provided the state with a solution for unwanted African 'squatters' who illegally resided on land designated for use by white people.

The state began to develop Gokwe at the beginning of the 1940s for African resettlement and agricultural production. The Secretary for Native Affairs wrote in 1943:

> The fact that large areas are uninhabitable [in Gokwe] is well known and the development of such areas by the provision of water supplies and so on, is being proceeded with as fast as circumstances (the

> availability of funds and personnel) permit. The same remarks apply to the agricultural development of the [area].[28]

There were two main reasons why the state thought Gokwe could be transformed into a successful agricultural region. Firstly, there were advanced plans to resettle 2,000 African families from the Rhodesdale Estate in the Midlands to the adjoining Gokwe and Sanyati districts. This plan was carried through at the beginning of the 1950s. The resettled Shona agriculturalists (Madheruka), it was projected, would, with adequate agricultural extension support, transform Gokwe by turning it into an important maize, and later cotton, belt.[29] The second factor was that the state envisaged that indigenous inhabitants of Gokwe, the Shangwe, would, in response to economic pressure and the agrarian example that would have been set by Madheruka immigrants (growing crops and profitably selling them to government-controlled commodity marketing boards), be left with no choice but to embrace commodity production. The state also considered that because of the polygamous nature of Shangwe marriages and high birth rates, there would be abundant supplies of labour for cotton production.

M. G. Reid, an official in the Department of Conservation and Extension, was at the forefront of introducing and promoting the uptake of cotton among farmers in Gokwe. The historian Eric Worby observed that the use of force was not one of the tools in Reid's toolkit. He sought to break from the past by cultivating a new kind of relationship between agents of the extension service and their clients.[30] Cordial relations with African farmers, Reid hoped, would yield a good response by way of increased cotton production. There is evidence that relations between officials from the Department of Conservation and Extension and farmers improved under Reid's tenure, as he was, in his annual reports, 'able to report with pride that relations between agents and natives had never been better', resulting in his promotion to the position of Senior Agricultural Officer in the Ministry of Internal Affairs.[31] Reid's success mainly related to Madheruka farmers, not the Shangwe. The Shangwe elected not to embrace the crop, in spite of its attraction as a cash crop, in obedience to exhortations by their religious leaders. Shangwe religious leaders had, as the next section shows, significant influence in Shangwe daily life.

Led by the spirits: Shangwe traditional religion

With the introduction of cotton in 1962, the Shangwe found themselves at the mercy of the colonial capitalist agrarian market. They turned to

their religion for answers. Building churches (beginning with the Roman Catholic and Baptist) and the construction of schools only began after Madheruka farmers had been resettled, so Christian leaders, colonial administrators and their staff and other civil servants, such as school teachers, had very little influence, if any, in Shangwe communities.[32] Conditions in Gokwe, mainly its infestation with malaria, tsetse flies and wild animals, had ensured that the state's influence did not reach parts of Gokwe, such as Mafungautsi, until the 1950s. In these circumstances it was only natural for the Shangwe to turn to their religion, which constituted a very important aspect of Shangwe daily life, for answers. The religious leaders, on the other hand, embraced the opportunity to push back against colonial design, as the changes taking place clearly introduced competitors whose actions would, over time, erode their power and influence.

> Shangwe religion is not unique, as it fits in with what scholars such as Émile Durkheim defined as 'a unified system of beliefs and practices relative to sacred things, that is to say, things set apart and surrounded by prohibitions – beliefs and practices that unite its adherents in a single moral community called a church.'[33]

Durkheim justifies his characterisation of a 'church' as a 'moral community' by arguing that the idea of religion must be something eminently collective. Shangwe communities of Gokwe, in this sense, constituted a moral community bound together by their belief in a supreme and all-powerful creator, who could only be reached by community members through intermediaries, that is to say ancestor spirits or v*adzimu*. Once deceased, members of the community were believed to enter into another dimension of being, the spirit realm, from where they continued to partake in daily affairs. Durkheim's description of the dead fits well with how they are seen in Shangwe religion, imagined as rather benevolent beings. The Shangwe believe that the dead are able to play a guardianship role over the living, to warn them of impending disasters, to heal their diseases, to protect them from evil spirits and to take their supplications to *Mwari*, the creator, on their behalf.[34] *Vadzimu* play an important role in all aspects of life. Consequently, spirit mediums, through whom the ancestors manifest, also play an important role in Shangwe communities.

Terrence Ranger's article about the popular Shona medium Pasipamire gives glimpses into the extent to which mediums can exercise power and prosper in material terms as they carry out their duties.

> Pasipamire was regarded as the owner of the land. Hunters had to seek permission to 'kill the elephants nicely' and to donate gifts of ivory and cloth. Shona supplicants came from 'distant' kraals; Lobengula, king of the Ndebele, sent Pasipamire presents of cattle, young girls, and so on.[35]

In Gokwe, Nevana is revered and regarded the most senior *svikiro*, responsible for rainmaking.[36] Nevana commands a lot of respect among Shangwe communities. In the past, on the inauguration of every new chief, the incoming chief was required to give one of his daughters – she had to be a virgin – as a sign of respect to Nevana.[37] The virgin, called *mbonga*, helped the rainmaking *svikiro* with his work. She was greatly honoured and 'envied by many girls', receiving respect comparable to that of nuns in the Roman Catholic Church.[38] There are other lower-ranking *masvikiro* who were also responsible for rainmaking, such as Chinamakwati, Mbambamba and Shadrick Silemba, to name a few. Because of the respect Shangwe religious leaders commanded in their communities, they were able to play an important role in shaping daily Shangwe life, particularly the nature of responses to the introduction of cotton in Gokwe in the face of the massive economic pressure exerted on Shangwe communities by the state.

Economic pressure: Shangwe encounters with the new order

Economic pressure was exerted on Shangwe livelihoods on two fronts. First was the relocation of hundreds of Madheruka families to Gokwe. The newcomers brought their own village leaders, and, in the majority of cases, did not submit to Shangwe traditional leaders. Wholesale new villages were formed on the margins of Mafungautsi state forest, a few examples being Tasiyana, Takaendesa, Gwehava, Chimbase, Rumhumha, Komichi, Marumisa, Kambani, Mapfumo and Dzawanda.[39] Because of their huge numbers, the Shangwe were not able to exert control over the immigrants, especially in relation to regulating land clearing for agricultural purposes. While each Madheruka family was entitled to ten acres of land, in compliance with the Native Land Husbandry Act of 1951, the vast majority cleared much more, causing shock and awe among the Shangwe who, being formerly a forest community that had evolved an array of prohibitions meant to protect trees and wild animals, had never seen such rapacious clearing before. Maguranyi, the officer responsible for supervising land clearance by the new settlers, was

not strict, with the result that many Madheruka families cleared more land than had been allocated to them.

This process was aided by the fact that the majority of Madheruka had basic education, which enabled them to take advantage of blindsides of colonial policies. While the land husbandry regulations, for example, required that from 1951 an African family would only be allocated ten acres of land and allowed to destock and maintain a small herd of only six cattle, the colonial administration lacked the capacity to enforce them. In the case of Gokwe, upon arrival some Madheruka men were employed by the Native Department at Gokwe Centre, the district's administrative headquarters, from where they would inform their fellow Madheruka villagers about what was taking place in the Department and use their status to intimidate Shangwe men who tried to secure the intervention of the Native Commissioner's office in grievances about excessive land clearance. To compound matters, apart from contestation over resources such as grazing and farmland, Madheruka, who were predominantly Christian, denigrated the 'naked' Shangwe and their traditions and would not submit to local traditions and religious beliefs. The second major shock for the Shangwe was their eviction from the forest. Mafungautsi, the Shangwe forest home, was gazetted and declared a state-protected forest by the Rhodesia Forestry Service in 1954. Shangwe families in Mbumbuze were, as a result of this development, evicted from the forest in 1960 and resettled on its margins, mainly in Mafa, Matashu and Maruta villages. Dispossessed of the forest on which they had relied for their livelihoods, the Shangwe were forced to switch from being predominantly a hunter-gatherer community to subsistence on agriculture. With access to game in the forest reserve curtailed by the Forestry Department, the Shangwe found themselves with little choice except to turn to farming.

For the colonial administration, backwardness was used as an alibi to justify changes that were brought to Gokwe from the 1950s. Madheruka farmers, unlike the Shangwe, had for a long time enjoyed access to modern facilities. Because of their interaction with white farms and agricultural extension programmes, Madheruka were large-scale agriculturalists in comparison with the Shangwe. They used mechanical devices such as ploughs, which not only made work easier, but also made it possible to put larger acreages of land under the plough. Madheruka also used certified seed expertly prepared by seed companies, unlike the Shangwe who still utilised locally smelted hoes and locally selected seed. Apart from gaining farming experience, especially as maize farmers, contact with the farms had also exposed Madheruka

to monthly wages and the cash economy. Towns such as Que Que (now Kwekwe) and Gatooma (now Kadoma) also influenced Madheruka. Contact with Christian missionaries and mission centres, which provided education, ensured that the majority of Madheruka were Christians and the majority of Madheruka, unlike the Shangwe, had a basic education.

Shangwe responses to commodification were more than just a reaction to cotton cultivation; they were a backlash against a colonial system that they viewed as bent on undermining their livelihoods. The responses were a counter to a chain of events; relocation of Madheruka, eviction from Mafungautsi, establishment of Christian churches and schools, and all that the state viewed as symbols of modernity. While the colonial state viewed these developments as advancement, the state did not do much to keep the Shangwe abreast of these new changes. There were no massive agricultural demonstration and extension programmes, no farmer-training programmes for the Shangwe and no lines of credit to enable them to successfully venture into farming. As a consequence, the Shangwe correctly viewed the new status quo as representing a huge assault on their way of life. Eviction from Mafungautsi forest, for example, brought significant hardships to the communities.

Hunting, which the community had relied on as their major source of protein for many years, became illegal, as did the harvesting of forest products such as honey, thatch-grass, broom-grass, mushrooms, fruit and the poles with which they constructed their huts and cattle kraals. Forest wardens who patrolled the forest would either arrest or ruthlessly assault people they found hunting or gathering in the forest. Dogs, which locals used to hunt, were always shot on sight by the wardens. It was expected that Shangwe communities would, from 1960 onwards, mainly subsist on farming. While Shangwe families generally responded to this economic reality by increasing their participation in agriculture – mainly cultivating maize and groundnuts – their activities were, paradoxically, disrupted by wild animals, mainly wild pigs, from Mafungautsi forest. This was because the state did not have the resources to fence off the 101,000-hectare forest to curtail game movements into the adjacent communal area. Further, the state was also hypocritical in its notions of 'modernising' the Shangwe. No sustained programme was put in place to bring the Shangwe in step with the new changes.

Resettlement of Madheruka farmers at places such as Gwehava, Kambani, Tasiyana, Chimbase, Rumhumha and Takaendesa villages created resentment among the Shangwe, as they negated the Shangwe way of life and deprived them of what they had for generations regarded as their land. Shangwe communities, particularly the leadership, did not

have a say in the process of land clearance and Madheruka resettlement. Madheruka, on the other hand, either did not take time or did not care to consider and understand Shangwe sensibilities in relation to land clearance. Though the Shangwe probably would not have been able to stop land clearance, they would at least have managed to assert their right to their sacred religious sites. Lack of respect for these sites was a product of the fact that Madheruka farmers were predominantly Christians who despised Shangwe religion, labelling it as demonic and satanic. Madheruka churches, such as the Methodist, Seventh Day Adventist, apostolic sects and Roman Catholic (the latter of which was in some ways more tolerant of aspects of Shangwe traditional religion in comparison with the others), taught that salvation could only be found in the gospel of Christ, not in adherence to traditional religion.

Apostolic sects were notorious for their blatant disrespect for local religious and cultural sensibilities. They conducted their services in the forest, and did not respect sites and landmarks that were regarded as sacred by the Shangwe. They taught doctrines that were contrary to local beliefs, such as the prohibition of work on Thursdays, called *chisi*, and openly exhorted their followers to disrespect Shangwe religious leaders and deliberately desecrate Shangwe sacred sites. The result of these teachings was that zealous members of these sects deliberately went into sacred sites, called *zviera*, and desecrated them, daring the spirits and proving their courage and spiritual fortitude to fellow church members and to prove that the ancestors did not have power to exact any punishment on Christians. Apart from contempt for Shangwe religion, Madheruka also generally looked down on every aspect of Shangwe life. They were, as Worby put it, everything the Madheruka were not.[40]

The Shangwe had genuine grievances against the colonial administration and Madheruka farmers. Over and above the disgruntlement over loss of land to Madheruka and other economic grievances, the desecration of religious sites was also a serious Shangwe grievance, causing deep distress and resentment.

Table 9.1 shows some of the sites the Shangwe say were desecrated by Madheruka in Mafa village and Mafungautsi forest.

The majority of Shangwe people refused to convert to the Christian faith in the early period. In spite of the establishment of churches, some Shangwe people argue, moral standards have continuously deteriorated in the area since the resettlement of Madheruka. The establishment of schools was also seen by locals as an assault on Shangwe culture. Many Shangwe families elected not to send their children to school. As for those who were enrolled in schools, the greater majority of them

Table 9.1 *Zviera* (sacred sites)

Place	What used to take place at the site, how it was desecrated	Status of the site now
Bopoma (name means waterfall), a waterfall near Mafa village, near Teteni Store	• They would hear people singing, drumming, ululating and dancing at night and early in the morning, but would not see anyone at the site • The place was always full of doves (numbers of between 100 and 1,000 are given by interviewees) • People would see clothes hanging on trees and shrubs at the place to dry, these would disappear if people approached the site • Madheruka would swim near the waterfall, bathe and wash their clothes using soap (use of soap at the site was prohibited) • White tourists also came to the place, drinking bottled beer, swimming and taking photographs of the site • Some apostolic sects would hold prayer services close to the site	The river, which in the past flowed throughout the year, now only flows during the rainy season The singing and drumming has stopped, the doves are gone
Dziva reMbumbuze	• Singing, drumming, clapping, ululating would be heard • Madhuruka would wash, bathe, swim at site, activities of lovers, mostly the young • Apostolic sects	The singing, drumming, ululating and clapping has stopped
Dohwe (in Mafungautsi forest)	• Though no one ever herded their cattle at that place, they would hear sounds (bleating of goats and sheep, people talking)	The bleating and talking is no longer heard
Chematange river	• Herding cattle at this spot was prohibited; a number of people said they took their cattle there and some of the cattle, sometimes the whole herd, would drown in the river	Prohibition no longer in place
Mafungautsi forest	• They were prohibited to sell fruit from the forest, but Madheruka did it	They say fruit in the forest is now bitter, people hardly sell it anymore because of this

Source: Author's interviews in Mbumbuze.

only went up to primary school level.[41] It is in this context, where the Shangwe felt undermined and denigrated, that they had to make a decision about whether or not to grow cotton.

'The choice is between suits and rags'

As a result of their state-authored precarious economic position at the beginning of the 1960s, the Shangwe were expected by the colonial administration to embrace cotton production on a large scale. In the eyes of colonial officials, Shangwe communities had all the preconditions for a momentous take-off; on one hand they had access to land and labour (because of polygamy), while cotton offered higher returns in comparison with maize and groundnuts. Seed and chemicals were provided on credit by the Farmers' Co-operative Society, while payment was only deducted from proceeds after the crop was delivered at the marketing depots. Though this was an important institution, many farmers were wary of getting into debt. Extension services, on the other hand, were provided, free of charge, by the Department of Conservation and Extension. This service was not adequate, however, as it was usually just one officer superintending over a vast area.

Extension officers canvassed for cotton cultivation. One of these officers, Cleopas Mhuri, is remembered for his advocacy of cotton. Sitshona Matashu remembers how the *mudhumeni* (demonstrator) would always say to him, 'VaMatashu, if you could only switch to cotton, suit *munotenga* easy' (you will even be able to afford to buy and wear suits).[42] Clothes had been a huge attraction for the Shangwe since the 1950s. Before resettlement of Madheruka farmers, the majority of the Shangwe still wore animal hides. In addition to spreading propaganda about the virtues of growing cotton and the ability to afford clothes and other trappings of the capitalist system, *madhumeni* also demonstrated how to grow cotton by maintaining small demonstration plots in the villages. Maguranyi, the first extension worker to work in Mbumbuze, grew cotton on small plots of land which he was given by Madheruka farmers, such as Isaac Gavaza of Rumhumha village.[43] Shangwe farmers of Mbumbuze did not overwhelmingly embrace cotton, in spite of this advocacy. Pius S. Nyambara has come to the conclusion that

> Madheruka farmers dominated cotton growing partly because they brought knowledge of commercial farming with them from their areas of origin. [...] Madheruka were hard working, enterprising and innovative. They strove for the best in their agricultural

> activities . . . In contrast . . . agricultural officers described the southern parts of Munyati area (Chisina, Mtanke, Blue Gums and Chidoma) as largely inhabited by indigenous people who were 'backward' and 'resistant' to change [. . .] there was 'very little if any progress with cotton'.[44]

It is important to understand the Shangwe economic circumstances outlined above and the role of Shangwe religion in determining Shangwe attitudes and responses to cotton.

One major source for the resistance to cotton in Mbumbuze was the stance taken by spirit mediums that cotton was a white man's crop whose cultivation would be tantamount to provoking the ancestors. The spirit mediums warned that community members who elected to cultivate cotton would be punished by the ancestors for their insolence. 'We were told by agricultural officials and the white Native Commissioner for Gokwe, Siqanyana, that cotton was the new quick way to make money, the new weapon with which to fight and drive away poverty', Shadrick Silemba, one of the most prominent spirit mediums in Gokwe South, recalled. Looking at the state of his home at Mandava village, Svisvi – just a handful of penurious-looking round huts – and the dishevelled and frowzy manner in which he and his three wives were dressed, it was apparent that he had not been successful in 'fighting and driving away poverty' in his over 80 years of existence.

Silemba's condition is typical of Shangwe families in Mbumbuze. Two factors account for Shangwe economic circumstances. Firstly, eviction from Mafungautsi forest deprived Shangwe communities of their livelihood. Secondly, the introduction of cotton did not help matters, as Shangwe communities, unlike Madheruka, were not agricultural on a significant scale. Household surveys carried out to rank wealth in Mafa and Matashu villages showed huge stratification between Shagwe and Madheruka households, especially in relation to cattle ownership, access to education, agrarian output and access to disposable income. Shadrick Silemba tried cotton cultivation without success. He was 'ordered' by *vadzimu*, he says, not to grow cotton.

> I tried to produce it [cotton]; my two attempts were futile. The first time I was ordered by *vadzimu* (the ancestors) to uproot all the cotton plants I had planted. I grudgingly complied. Defiantly, I tried my luck the second time and toiled once more in my cotton fields. My harvest was pathetic; I managed only two bales. I sent my cotton to the depot, but never got paid. I pursued payment for more than five years, but

> my cheque was never sent to me. The ancestors had spoken without equivocation; disobedience begets needless pain.[45]

Silemba does not regret that he never attempted to cultivate cotton again after his second mishap. The way of the ancestors, he says matter-of-factly, is the supreme way to live:

> I have defied the ancestors a few times in my life, and each time it brought me grief. You notice that I am not putting on shoes, the ancestors told me never to wear them. When I put them on at one time, after someone had given me a pair as a gift, it made my feet sore and excruciatingly painful for many months. For most of my life I could not utilise cars and buses as a means of transport. It was only recently that *vari kumhepo* [the spirits, ancestors] allowed me to do it . . . We have wronged *vari kumhepo*, my child, and we are paying a heavy and dear price for it.[46]

Silemba's account behoves the question, in what way then is this kind of existence the supreme way to live? He defends his position vehemently:

> All people were given their own land from which to subsist . . . It is from travelling, migrating and love for wealth that people go to either impose their culture on others – together with their crops, their ways and their gods – or [in the case of those who move from their communities] bring back strange beliefs. Mobility – beginning with the influx of Madheruka, then the freedom fighters from distant lands who operated in Gokwe – has brought terrible diseases like AIDS that have wiped away whole families here in Gokwe. Mobility has brought strange cultures and evil vices and undermined our religion. This is the reason . . . for early mortality, changes in rainfall patterns and persistent droughts.[47]

Shangwe spirit mediums, who played vital religious roles in Shangwe everyday life, naturally led the way in resisting these changes by discouraging cotton cultivation, uptake of secular education and the Christian religion, and other new things that were thought to encapsulate whiteness and apostasy. The mediums told Shangwe communities that cotton was a white man's crop whose cultivation the ancestors neither supported nor condoned. It was predicted that cotton cultivation would yield peril for the communities. Mabheu Senzela, a staunch advocate of Shangwe traditional religion, recalls:

> We were told by the ancestors over and over again, through our spirit mediums, not to grow cotton. The ancestors said the fluffy white fibre blinded them, that chemicals used to spray the crop against pests contaminated the soil and rivers and discharged a repugnant smell they could not tolerate *kumhepo* (in the spirit world). In addition to emission of repulsive odour the ancestors asked, is cotton not a white man's crop? They were right. Who, my son, eats cotton?[48]

It is important to also state that the exhortation by spirit mediums not to cultivate cotton came at a time when, though there was a lot of suspicion of and anger towards the activities of Madheruka, there was also significant admiration of Madheruka by some Shangwe people, especially young men and women.

Madheruka, also called *vasina mabvi* (those with no knees) by locals because of the long trousers and dresses they wore, made locals also want to acquire clothes. Many young men went to offer their labour to Madheruka to clear land, while others bartered products such as cattle for second-hand clothes. Apart from admiration of clothes and blankets (the Shangwe used to weave their blankets from strings that they got from trees), Madheruka also had implements that many Shangwe people had never seen, such as ploughs. They also employed different farming methods; for example, while the Shangwe used to just scatter their maize seed near banks of rivers (*mativi*), Madheruka planted theirs in uniform, neat rows. Spirit mediums advised the Shangwe to have nothing to do with the white man's things and way of life (*Musabata zvinhu zvechirung*).[49]

This added a religious dimension to cotton growing. The decision whether to grow cotton or not went beyond an economic decision by the nuclear family; cotton cultivation also constituted a rejection of instructions from the ancestors. This immediately became the business of the whole extended family, as in Shangwe culture it is believed that if one wronged the ancestors it did not follow that punishment would be meted out directly to that individual, but to immediate members of his family. A decision to grow cotton was also essentially one that also involved rejecting the leadership and protection of the ancestors, and fighting extended family members who, in the majority of cases, were ardent devotees of traditional religion. Some families took the decision that none of their members would either belong to the new Christian churches or grow cotton. In some families, such as the Moyo family in Makuwerere village, the ban on joining Christian churches has remained to this day. Kefas Moyo, a community leader in Makuwerere

village, explained, 'in my extended family no one is allowed to belong to a Christian denomination, we worship what you Christians call demons'.[50] Some members of the Shangwe communities who desired to cultivate cotton or to join one of the new churches were not able to do so as a result of family pressure. Unable or unwilling to grow cotton, many Shangwe families found ways to benefit financially from those who did grow cotton. One way of doing this was leasing their land to Madheruka farmers. Leasing land has to be seen in the context of land hunger – there were limitations imposed by the Native Land and Husbandry Act stipulating how much land each farmer could own.

There are a few Shangwe families that made the decision to venture into cotton production, against the advice of spirit mediums. Most of the people who cultivated cotton did not do so with the intention of using it as a vehicle for modernisation, in the sense of being like Madheruka. They never grew it on a significant scale. They had the labour, because of the size of their families, and could have produced much more than Madheruka farmers who were not polygamous and therefore had fewer children. They used proceeds to buy cattle, which in turn were sometimes used for the purposes of marrying more wives.[51] Almost everyone who grew cotton bought at least one cow with the proceeds. This is not to say that income from cotton was not utilised for anything else. People bought groceries, scotch carts, beds and even sent their children to school, as Angeline Mafa did, though this was rare.

There are a number of reasons why a lot of people did not cultivate cotton. Perhaps the most important one was that cultivation of cotton was a complete misfit in the Shangwe farming system. Those members of the community whose beliefs in traditional worship were rock solid had the fortitude to obey what the ancestors said, in spite of the cost. The reasons given by the ancestors were that it was a white man's crop, its growing was synonymous with oppressive colonial rule and its cultivation would benefit the colony's rulers. In addition to this, it symbolised everything that was wrong with Gababe, Sengwa, Mbumbuze and Svisvi: the imposition of a large immigrant population whose hold over land deprived locals, and whose religious persuasion negated local religious beliefs. Madheruka negated local traditions partly because of their religious beliefs, which resulted in them setting up their churches on sacred mountains, against the advice of *svikiros* in the area such as Nevana, Chinamakwati and Shadrick Silemba.

It is important to acknowledge that there were other reasons for resistance to cotton, among them the labour-intensive nature of cotton production, considering the fact that only a few years earlier the Shangwe

had not been engaging in agriculture on a very significant scale. For colonial officials, however, the reason for Shangwe lack of enthusiasm for cotton production was simple: it was the product of a combination of their being both 'backward' and 'primitive'.[52] Madheruka also held the same view as white officials, that the Shangwe were 'backward' and 'primitive'. Some Shangwe farmers who had ventured into cotton production against the advice of traditional leaders abandoned its production because of the increased incidence of cotton growers who passed away from sickness. Traditional healers did not have a remedy for this illness, apart from stating that this was punishment from the ancestors for the sick person's cotton-growing, which the ancestor viewed as contemptuous. This resulted in the formation of a general belief that the disease was punishment from the ancestors for refusing to take heed of instructions not to cultivate cotton. It later turned out that the disease that was causing the deaths was tuberculosis, which locals now believe was contracted as a result of the use of chemicals to protect the cotton crop from pests.

From interviews it appears that a number of people died from a disease that had TB-like symptoms from the 1960s. There were people, however, who were later diagnosed. Marabu Sibanda contacted TB and struggled with a bad cough for a very long time and complained that his chest was 'heavy'.[53] His family sought advice from spirit mediums and was told that his ailment was a result of working too hard and cultivating cotton, and that he had to quit cotton cultivation immediately. Sibanda later came across information that there was a good Roman Catholic mission hospital called Driefontein. He went to the mission, and was diagnosed with TB. He was put on medication and he recuperated. It is difficult to ascertain whether his condition was a result of chemicals associated with cotton. A number of other Shangwe cotton farmers also developed the same symptoms as Marabu Sibanda and were rushed to Driefontein, where they were diagnosed with TB and were treated. Some people were not so fortunate, though. A number of Shangwe men succumbed to the disease, especially before knowledge about Driefontein mission hospital reached the communities.

Conclusion

In 1962 cotton was introduced to Mbumbuze. It was expected that the majority of Shangwe people would, as was happening with Madheruka, embrace cotton cultivation. Cotton would be the doorway to modernity for the 'primitive' and 'backward' Shangwe, it was thought. The

Shangwe were, however, given the exhortation by their spirit mediums that cotton was a white man's crop that they were supposed to shun, as its cultivation would not be a blessing for the communities. It appears that this exhortation was not just about cotton, but about the general environment under which the Shangwe of Mbumbuze subsisted from 1953. There was massive clearance of their forest home, together with sacred spots in the forest. This was followed by the introduction of buses, opening of retail shops, and other developments which made it necessary for the Shangwe to adapt to this cash economy. This must have given Shangwe community leaders the impression that cotton did not represent progress for their communities, but destruction.

Production of agricultural commodities by Africans for colonial markets was a major thrust of colonial policy, and reshaped the local economies. This continued to be the case after the end of colonial rule, as most African economies continued to produce commercial crops such as cotton, rubber and cocoa for international markets. Because of this, a lot of research has been dedicated to African production of commodities for export, and the perceived raw deal Africans got as a result of the vicissitudes of international marketing and pricing arrangements. Little attention has been given, however, to the fact that African farmers were not always victims of colonial processes. They embarked on a vast array of anti-commodity responses meant to cushion themselves from colonial commodity policies.

This chapter has examined such responses in one community in colonial Zimbabwe. The Shangwe, in the face of pressure exerted on their livelihoods by colonial resource-conservation and commodity-production policies which had the effect of relocating them from their traditional forest home and forcing them to embrace cotton, showed their social resilience as a group. They turned to their religious leaders, who exhorted them, in spite of economic pressure, not to embrace cotton. Though in the eyes of the administration there was no way out for the Shangwe, as their economic choice was perceived as limited to suits (cotton) and rags (poverty), the Shangwe chose a third option. It is not the power of the market alone that determines what people produce, but other social factors such as religion also play a significant role. The story of Shangwe resistance to cotton is important for two reasons. Firstly it highlights that African communities were not mere victims of colonial agrarian policies. They could, through structures such as religion, resist colonial policy. Secondly, it is important to note that colonial policy was not the only driver of life in the colonies. Local agency played an important role in determining outcomes.

Notes

1. G. H. Karekwaivanane (2011) 'It shall be the duty of every African to Obey and comply promptly': Negotiating state authority in the legal arena, Rhodesia 1965–1980' *Journal of Southern African Studies,* 37 (2), 333–49.
2. T. H. Leedy (2010) 'A starving Belly doesn't listen to explanations': Agricultural evangelism in colonial Zimbabwe, 1900–1962' *Agricultural History*, 84 (4), p. 480. The author utilises such terms as 'local ritual authority', 'traditional religious leaders' and 'traditional religion' cognisant that a number of scholars have argued against continued reference to African religion as 'traditional'. See, for example, R. Shaw (1990) 'The invention of "African traditional religion" ' *Religion*, 20 (4), 339–53 and T. O. Ranger (1991) 'African traditional religion' in S. Sutherland and P. Clarke (eds), *The World's Religions: The Study of Religion, Traditional and New Religion* (London: Routledge), pp. 106–14.
3. 'Civilised agriculture' encapsulated mixed farming, which W. Wolmer (2000) 'The science of "civilized" agriculture: The mixed farming discourse in Zimbabwe' *African Affairs*, 99, 575–600, argues encapsulated, among other things, 'such technical innovations as manure-intensive husbandry, the use of legumes, a reduction of fallows and the integration and mutual development of arable and pastoral husbandry'. See also M. Weber (1930) *The Protestant Ethic and the Spirit of Capitalism* (London: Routledge).
4. C. J. M. Zvobgo (1976) 'Shona and Ndebele responses to Christianity in southern Rhodesia, 1897–1914' *Journal of Religion in Africa*, 8 (1), 41–51.
5. J. McCulloch (1995) *Colonial Psychiatry and the African Mind* (Cambridge: Cambridge University Press) and D. Arnold (1988) *Imperial Medicine and Indigenous Societies* (Manchester: Manchester University Press).
6. D. Moore (1996) *A River Runs through It: Environmental History and the Politics of Community in Zimbabwe's Eastern Highlands* (Berkeley, CA: Institute of International Studies), p. 4.
7. A. Isaacman (1990) 'Peasants and rural social protest in Africa' *African Studies Review*, 33 (2), p. 17.
8. H. Bradford (1987) *A Taste of Freedom: The ICU in Rural South Africa 1926–1930* (New Haven, CT: Yale University Press).
9. Isaacman, 'Peasants and rural social protest', p. 17.
10. Research for this article was part of a larger study on forms of African production as resistance against colonial commodity policies with particular reference to cotton in colonial Zimbabwe.
11. E. D. Alvord (undated) 'The Gospel of the Plow or A Guided Destiny' (unpublished autobiography of the Agriculturalist for Natives), National Archives of Zimbabwe (NAZ); R. Palmer (1977) *Land and Racial Domination in Rhodesia* (Berkeley, CA: University of California Press); S. L. J. Page and H. E. Page (1991) 'Western hegemony over African agriculture in southern Rhodesia and its continuing threat to food security in independent Zimbabwe' *Agriculture and Human Values*, 8 (4), 4–5.
12. Alvord, 'The Gospel of the Plough'. See also E. D. Alvord (1926) 'The great hunger: The story of how an African chieftaincy improved its farming methods under European guidance' *Native Affairs Department Annual (NADA)*, 6, 35–93 and E. D. Alvord (1950) 'Teaching natives to farm: Work of the Native Affairs Department' *New Rhodesia*, (July) p. 5.

13. E. D. Alvord (1930) 'The agricultural lives of Rhodesian natives' *Native Affairs Department Annual (NADA)*, 7–12; E. D. Alvord (1950) 'The progress of native agriculture in Southern Rhodesia' New Rhodesia, 15 (August) 18–19; and E. D. Alvord (1930) 'Agricultural demonstration work on Native Reserves', National Archives of Zimbabwe (NAZ), Harare, Occasional Paper 3.
14. I. Scoones (1997) 'Landscapes, fields and soils: Understanding the history of soil fertility management in Southern Zimbabwe' *Journal of Southern African Studies*, 23 (4), 615–34.
15. Page and Page, 'Western hegemony over African agriculture', p. 7.
16. A. K. Shutt (2002) 'Squatters, land sales and intensification in Marirangwe purchase area, colonial Zimbabwe, 1931–65' *Journal of African History*, 43 (3), 473–98.
17. Page and Page, 'Western hegemony over African agriculture', p. 7. Alvord promoted the cultivation of maize, cotton, groundnuts and soya beans, among other crops.
18. M. Yudelman (1964) *Africans on the Land: Economic Problems of African Agricultural Development in Southern, Central and Eastern Africa, with special reference to Southern Rhodesia* (Cambridge, MA: Harvard University Press).
19. P. S. Nyambara (2002) 'Madheruka and Shangwe: Ethnic identities and the culture of modernity in Gokwe, Northwestern Zimbabwe, 1963–79' *Journal of African History*, 43 (2), 287–306.
20. Ibid., p. 293.
21. See S. Maravanyika (2012) 'Local responses to colonial evictions, conservation and commodity policies among Shangwe communities in Gokwe, Northwestern Zimbabwe, 1963–1980' *African Nebula*, 5, 1–20.
22. Ibid., pp. 4–5.
23. P. Nyambara (2005) 'That place was wonderful!' African tenants on Rhodesdale estate, colonial Zimbabwe, c. 1900–1952' *International Journal of African Historical Studies*, 38 (2), 267–99.
24. Maravanyika, 'Local responses to colonial evictions', p. 2.
25. Ibid., pp. 1–20.
26. For more on Shangwe struggles for Mafungautsi forest, see S. Maravanyika and T. Mutimukuru-Maravanyika (2009) 'Resource-based conflict at the local level in a changing national environment: The case of Zimbabwe's Mafungautsi state forest' *African Economic History*, 39, 129–50.
27. Report of the Department of Agriculture for the Year Ending 31 March 1903.
28. National Archives of Zimbabwe (NAZ), S1188/3, Comments by the Secretary of Native Affairs, H. D. Simmonds, on the Natural Resources Board Memorandum on the Conservation of Natural Resources on Land Occupied by Natives, 2 March 1943.
29. For more on the colony's 'post 1945 development regime', see the Report on Native Production and Trade, Salisbury, Government of Southern Rhodesia, 1945 and E. Worby (2000) ' "Discipline without oppression": Sequence, timing and marginality in Southern Rhodesia's post-war development regime', *Journal of African History*, 41 (1), 101–125.
30. Worby, 'Discipline without oppression', p. 120.
31. Ibid.
32. Ibid., p. 103.
33. E. Durkheim (2001) *The Elementary Forms of Religious Life* (Oxford: Oxford University Press).

34. See R. Ngara (2013) 'Shangwe music for spiritual rituals: A symbolical enactment' *Studies of Tribes and Tribals*, 11 (2) 127–33.
35. T. Ranger (1982) 'The death of Chaminuka: Spirit mediums, nationalism and the Guerrilla war in Zimbabwe' *African Affairs*, 81, 324, 349–69.
36. See C. J. K. Latham (1979)'The social organization of the Mashona' *Native Affairs Department Annual (NADA)*, 10, p. 7. Latham, the leading Internal Affairs Department's 'expert' on African traditions and religion, identified Nevana as one of the most important spirit mediums in the colony.
37. Interview with Manhamba Sande, 65, Tare Township, Nemangwe, 10 September 2011.
38. R. Ngara (2012) 'Mukwerera: A Shangwe rainmaking ceremony: Its music, dance and symbols', Master of Arts thesis, Alice, University of Fort Hare, unpublished.
39. This section is primarily based on interviews in Mbumbuze and Sengwa between September 2010 and April 2012. Though these villages fell under the jurisdiction of a Shangwe Chief, this did not stop them from carrying out activities such as land clearing, as these actions had the support of colonial functionaries such as the Native Commissioner and his officials and other government departments such as CONEX.
40. E. Worby (1994) 'Maps, names and ethnic games: The epistemology and iconography of colonial power in northwestern Zimbabwe' *Journal of Southern African Studies*, 20 (3), p. 389.
41. Author's interviews with Brown Kufa, 70, and Silas Mapfumo, 81, Matshu village, 26 September 2011. Disparities in education between Madheruka and Shangwe are apparent in the communities; the majority of Madheruka, unlike the Shangwe, have children who work for the Public Service as teachers, nurses, doctors or members of the uniformed forces and in the private sector. One striking thing is the absence of young Shangwe men in the villages in Mbumbuze. The majority of them trek to South Africa to look for menial jobs.
42. Interview with Sitshona Matashu, 84, Matashu village.
43. Interview with Isaac Gavaza, 85, Rumhumha village.
44. Nyambara, 'Ethnic Identities and Culture of Modernity', pp. 288, 298.
45. Author's interview with Shadrick Silemba, aged around 80, Mandava village, Svisvi, 15 September 2011.
46. Ibid.
47. Author's interview with Shadrick Silemba.
48. Interview with Mabeu Senzela, 70, Matashu village, 14 January 2012.
49. Interview with Sitshona Matashu, 84, Matashu village, 27 September 2011.
50. '*Isu kudzinza kwedu hakuna anopinda* church, *tinonamata amunoti madhimoni*'. Interview with Kefas Moyo, Makuwerere village.
51. This section is based on interviews in Mafa and Matashu villages.
52. E. Worby (1992) 'Remaking labour, reshaping identity: Cotton, commoditization and the culture of modernity in northwestern Zimbabwe', Doctor of Philosophy thesis, McGill University.
53. Interview with Dhara Msanika, Mafa village. Msanika gave the author 21 examples of community members in Mafa, Matashu and Matura villages who succumbed to tuberculosis.

Index

Note: The locators followed by 'n' refers to notes.