

Contents

Foreword

Jefferson Fox

Preface

Malcolm Cairns

Quick geographic reference for the book's chapters

1. Introduction

A. Overview chapters: The context in which this book was prepared

(i) A backwards glance, over our shoulders ...

1. The view of swidden agriculture by the early naturalists

Linnaeus and Wallace

Michael B. Dove

2. Shifting cultivators and the landscape: An essay through time

Harold Brookfield

3. Swiddens and fallows: Reflections on the global and local values of

'slash and burn'

Carol J. Pierce Colfer, Janis B. Alcorn and Diane Russell

4. Agroforestry pathways revisited: Voices from the past

John Raintree and Katherine Warner

5. Shifting agriculture and its changes in Yunnan Province, China

Shaoqing Yin

6. Swiddeners at the end of the frontier: Fifty years of globalization in

Peter Kunstadter

(ii) Looking towards the future ...

7. The future of swidden cultivation

Joseph A. Weinstock

8. Shifting agriculture and fallow management options:
Where do we stand?

P. S. Ramakrishnan

9. Chena cultivation in Sri Lanka: Prospects for agroforestry
interventions

Herath P. M. Gunasena and D. K. N. G. Pushpakumara

10. Learning from migratory agriculture around the world to
improve both
swidden and modern agriculture in Southeast Asia

Roland Bunch

11. Learning to cope with rapid change: Evergreen agriculture
transformations
and insights between Africa and Asia

Dennis P. Garrity

2. Is shifting cultivation really the 'bogeyman' of climate
change and biodiversity loss?

A. Shifting cultivation in an era of climate change

12. Swidden transitions in an era of climate-change debate

Meine van Noordwijk, Peter A. Minang and Kurniatun
Hairiah

13. Climate change: Adaptation, mitigation and transformations
of
swidden landscapes: Are we throwing the baby out with
the bathwater?

[14. Best REDD scenario: Reducing climate change in alliance with swidden](#)

[communities and indigenous peoples in Southeast Asia](#)

Janis B. Alcorn and Antoinette G. Royo

[15. Earning carbon credits through fallow management on lands affected](#)

[by shifting cultivation in northeast India](#)

Imtiena Ao

[16. Formal and indigenous forest-management systems in Central Vietnam: Implications and challenges for REDD+](#)

Mucahid Mustafa Bayrak, Tran Nam Tu and Paul Burgers

[17. Changing strategies of shifting cultivators to match a changing climate](#)

[Prasert Trakansuphakon](#)

[18. Fallows and flooding: A case study on the potential contribution of](#)

[fallows to flood mitigation](#)

Peter D. Suson, Rex Victor O. Cruz, Ruth P. Serquiña,

Nathaniel C. Bantayan, Daisy Lou L. Polestico and Jerson

N. Orejudos

[19. Dynamics of an island agroecosystem: Where to now?](#)

Marjorie V. Cushing Falanruw and Francis Ruegorong

[**B. Is shifting cultivation friend or foe to biodiversity?**](#)

[20. Second thoughts on secondary forests: Can swidden cultivation be](#)

[compatible with conservation?](#)

Dietrich Schmidt-Vogt

[21. Biodiversity and swidden agroecosystems: An analysis and](#)

some
implications

Percy E. Sajise

22. [Shifting cultivators, curators of forests and conservators of biodiversity:](#)

[The Dayak of East Kalimantan, Indonesia](#)

Herwasono Soedjito

23. [Fallow-management practices among the Tangkhuls of Manipur:](#)

[Safeguarding provisioning and regulatory services from shifting-cultivation fallows](#)

L. Jitendro Singh and Dhruvad Choudhury

24. [Some lesser known facts about *jhum* in Nagaland, northeast India](#)

Temjen Toy and POU (Project Operations Unit) Members

25. [Plant genetic diversity in farming systems and poverty alleviation](#)

[in Vietnam's northern mountain region](#)

Tran Duc Vien, Vu Van Liet and Nguyen Thanh Lam

26. [Experimenting with change: Shifting beliefs and rice varieties in](#)

[swidden communities in northern Laos](#)

Karen McAllister

27. [Is the 'bogeyman' real? Shifting cultivation and the forests, Papua New Guinea](#)

Bryant Allen and Colin Filer

28. [The end of swidden in Bhutan: Implications for forest cover and biodiversity](#)

Stephen F. Siebert, Jill M. Belsky, Sangay Wangchuk and

James Riddering

29. [Valuation and management of forest ecosystem services: A skill well exercised by the forest people of Upper Nam Theun, Lao PDR](#)

Laurent Chazée

30. [Benuaron: The fruit gardens of the Orang Rimba](#)

Bambang Hariyadi and Dedi Harmoko

31. [Ancestral domain and national park protection: A logical union? A case study of the Mt Kitanglad Range Nature Park, Bukidnon, Philippines](#)

Malcolm Cairns

32. [Shifting cultivation and wildlife sanctuaries in ancestral domains:](#)

[Friend or Foe of biodiversity conservation?](#)

Gliceto 'Butch' O. Dagondon and Maria Easterluna Luz S. Canoy

33. [The missing link of forest regeneration: Dwindling shifting cultivation in India's Northwestern Ghats](#)

Archana Godbole, Jayant Sarnaik and Yogita Gokhale

34. [Fallows and forest restoration](#)

Kuswata Kartawinata and Rochadi Abdulhadi

35. [Characteristics and roles of fallow and riparian forests in a mountainous region of northern Laos](#)

Isao Hirota

36. [A plant-resources survey and festival: A community-based approach](#)

Venancio A. Acebedo, Lorna F. Acebedo and David M. Bates

[37. Developing information systems on indigenous plant resources](#)

[in the Cordillera Administrative Region, Philippines](#)

Damasa B. Magcale-Macandog, Edwin R. Abucay, Lorenza G. Lirio,

Lito O. Ayyokad, Joyce N. Paing, Jovita E. Saguibo, Enesto T. Miguel and

Marlyn Tombali

[3. Specialization for markets or continued agrodiversity for subsistence?](#)

[A. When swidden fallows become the domain of commodity crops](#)

[38. Oil palm as a productive fallow? Swidden change and new opportunities in smallholder land management](#)

Ole Mertz

[39. Where are the swidden fallows now? An overview of oil-palm and Dayak agriculture across Kalimantan, with case studies from Sanggau, in West Kalimantan](#)

Lesley Potter

[40. Busy people, idle land: The changing roles of swidden fallows in Sarawak](#)

Rob Cramb

[41. Socially constructed rubber plantations in the swidden landscape of southwest China](#)

Jianchu Xu and Zhuangfang Yi

42. Rubber plantation, swidden agriculture and indigenous knowledge:

A case study of a Bulang village in Xishuangbanna, China

Lun Yin, Dayuan Xue and Jing Wang

43. Impacts of smallholder rubber on shifting cultivation and rural livelihoods

in northern Laos

Vongphaphane Manivong and Rob Cramb

44. From subsistence swidden fallows to market-oriented monoculture

production: Drivers of land-use change in the Lao PDR, in the context

of market globalization

Paulo Pasicolan and Thatheva Saphangthong

45. Transformation of a landscape: Shifting cultivation, biodiversity

and Tea

Janet C. Sturgeon

B. Shifting cultivation on an island frontier: An examination of the main swidden

communities in Palawan, the Philippines – Sub-edited by James F. Eder

46. Tree crops, fallow management and agricultural settlement in the

Cuyonon system of shifting cultivation

James F. Eder

47. Governmental pressures on swidden landscapes on Palawan Island,

the Philippines

Wolfram Dressler

48. [Rice-related knowledge, farming strategies and the transformation of swiddens among the Batak of Palawan Island, the Philippines](#)

Dario Novellino

[4. Concluding section:](#)

49. [Gender analysis: Shifting cultivation and indigenous people](#)

Carol J. Pierce Colfer, Rebakah Daro Minarchek, Malcolm Cairns,

Anungla Aier, Amity Doolittle, Valerie Mashman, Helen Hambly Odame,

Michelle Roberts, Kathryn Robinson and Penny Van Esterik

50. [The Bidayuh of Sarawak: Gender, spirituality and swiddens](#)

Valerie Mashman and Patricia Nayoi

[Taxonomic Index](#)

[Index of Ethnic Groups](#)

[Index](#)

Foreword

Jefferson Fox*

This is the second volume of papers on swidden agriculture edited by Malcolm Cairns. Both books have been ambitious undertakings with each volume including the work of more than 100 scholars and running upwards of 800 to 1200 pages. The first volume, *Voices from the Forest; Integrating Indigenous Knowledge into Sustainable Upland Farming* (2007), described and analyzed numerous examples of improved fallow practices in South and Southeast Asia. Case studies on the retention of volunteer species with economic or ecological value, shrub-based accelerated fallows, herbaceous legume fallows, dispersed tree-based fallows, perennial—annual crop rotations and agroforests comprised the bulk of the book. These case studies provided a detailed overview of the great diversity of adaptive fallow systems and tree-cropping systems developed by local communities across the Asia-Pacific region. The book also documented the ability of these systems to adapt rapidly to changing land-use pressures and market economics, and refuted a commonly held belief that they are static.

This second volume has more of these case studies, but the focus has shifted substantially. The papers in the 2007 volume were prepared for a workshop held in Bogor, Indonesia, in 1997. In the decade and a half since then the countries of South and Southeast Asia have experienced dramatic economic growth, and opportunities to earn cash incomes and/or grow commercial crops have trickled down to many swidden farmers. No longer dependent on their land for subsistence, many farmers have willingly, or in some cases under coercion, abandoned their swidden practices. This transition was well documented by van

Vliet et al. (2012) who, based on a metaanalysis of land-cover transformations in tropical forest-agriculture frontiers over the past 10 to 15 years, concluded that swidden agriculture was decreasing in landscapes with access to local, national and international markets that encouraged cash crops. Many of the papers in this volume focus on the implications of rapid economic development and change for both farmers and swiddens, in terms of environment and livelihoods.

Swidden has long been viewed as an environmentally destructive practice. Countless studies have documented the supposed destructiveness of swidden practices and almost as many have sought to refute these claims. In this volume, the context has changed. These authors are no longer writing in opposition to claims that swidden causes degradation. Rather, they are writing of the environmental benefits of swidden. One benefit is that in an era of climate change, swidden fallows are seen as potential sequesters of carbon. Van Noordwijk et al. (this volume) suggest that some managed fallows (i.e., fallows older than 15 years) might qualify under the categories of 'conservation of forest-carbon stocks', 'sustainable management of forests', or 'enhancement of carbon stocks' in REDD+ discussions. This could mean that REDD+ funds might be invested in enhancing and promoting fallow management, as long as these actions contribute to the reduction of emissions and sustainable development as a whole. From a carbon perspective, intermediate- or long-fallow swidden systems could conceivably represent optimal land-use options in some situations. In addition, lengthening the fallow periods in existing swidden systems or managing the tree and bush phases of fallows could qualify for REDD+ funds.

Janis Alcorn and Antoinette Royo (this volume) argue that REDD+ policies should support the development of complex agroforestry systems that reduce carbon emissions, provide secure livelihoods and protect biodiversity and other ecosystem services.

Alcorn and Royo suggest that national agencies should provide smallholders with technical support, extension, credit, transport and marketing of agroforestry products in order to both increase productivity of their swidden systems and reduce carbon emissions. Successful REDD+ policies require the active involvement of local people; to be actively engaged, smallholders need secure tenure for both agricultural and forest lands before they can participate in meaningful discussions with planners and government agencies concerning the future of their land. Positive market incentives and supportive government policies are better than standardized, top-down directives, and it can be expected that these forces, along with increasing influence from global factors, will create opportunities and constraints for new land uses.

Another potential benefit of swidden is biodiversity. Percy Sajise's paper (this volume) summarizes the arguments on swidden and biodiversity and concludes that it does not always follow that swidden farming causes a decline in biodiversity; nor does increasing the number of species always result in enhanced productivity and ecosystem sustainability. There are tremendous variations in the biodiversity levels of various swidden systems compared with natural forests, and there is a lack of scientific study that relates these variations in biodiversity levels and characteristics to ecosystem services, and the ability to generate socio-economic benefits to society on a sustainable basis. Sajise notes, however, that the transformation of swidden to intensive agriculture is accompanied by a decline in forest cover, loss of wild or natural biodiversity, increases in weed pressures, decreases in soil fertility, accelerated soil erosion, declines in stream-water quality and potential reduction in sequestered carbon. Likewise, Siebert et al. (this volume) argue that the loss of swidden in Bhutan is having profound implications for biodiversity. They suggest there is an intimate relationship between swidden practices that have existed for centuries and the abundance and

distribution of flora and fauna, and basic ecological processes and functions. Transformations in swidden practices are leading to reductions in biodiversity in the eastern Himalayas. So while swidden may or may not cause a decline in biodiversity, it appears, for the sake of biodiversity, to be clearly preferable to the alternatives, which are not forests, but intensive commercial agriculture, often in the form of monoculture tree plantations.

In their excellent review of the impacts of changes in swidden on rural livelihoods, Cramb et al. (2009) conclude that swidden farmers are proactively responding to the political and economic 'drivers of change' in the region. At the household level, responses have included both the intensification and 'dis-intensification' of swiddens, the insertion of cash crops, the redeployment of household labour and the taking on of broader (often non-rural) livelihood aspirations and strategies. At the community level, new institutional arrangements for managing land and forests have emerged. Changes in swiddening practices have led to the loss and also the reassertion, realignment and redefinition of cultures and identities, with important implications for access to resources. These themes are echoed in these papers.

In this volume, Cramb notes that rapid economic change in Sarawak has drawn people out of the longhouse and away from their traditional resource base, giving rise to what he calls a 'post-swidden landscape'. He suggests that the orientation towards urban employment means that collective decisions are being made about the conversion of the pooled swidden-fallow resource to commercial crops (oil palm, rubber and other uses) and that longhouse members may not be on an equal footing with outside investors in these decisions. More optimistically, Mertz (this volume) observes that when farmers in Niah district, Sarawak converted their fallow land to oil palm in the late 1990s, they did so in small patches over a long period. He suggests the replanting that will begin after 2020 may be equally slow, allowing a period

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for growing rice in between cycles of oil palm. Mertz argues that after 20 to 25 years, an oil-palm garden may be regarded as reasonable 'fallow vegetation' that can be cut and burned for new cultivation of upland rice and other crops. Less optimistically, Potter (this volume) writes that swidden fallows have largely disappeared in the oil-palm areas of West Kalimantan. Although some people still cling to their rubber forests and tembawang, she concludes that it is too late to reverse the march of oil palm: "it is certainly too late to bring back the swidden."

But swidden has not disappeared everywhere. The third volume in this trilogy contains numerous examples of improved fallow practices in the Asia-Pacific region. These practices include fallow systems based on *Alnus nepalensis*, Asteraceae and bamboo, different mounding technologies, and differing roles for livestock and fodder, as well as non-timber forest products. As in *Voices from the Forest*, these case studies provide a well-documented and descriptive synopsis of the diversity of adaptive fallow and tree-cropping systems developed by local communities in their efforts to modify upland farming to meet evolving rural conditions

In the concluding chapter of *Voices from the Forest*, Terry Rambo asked the question: 'Does improved fallow management have a future?' He concluded, 'yes, of course it does', because there are no alternatives to this strategy for millions of resource-poor farmers living in upland areas of Asia and the Pacific. Yet, Brookfield (this volume) reminds us that James Scott (2009, pp. 4-5) described the last half-century in upland Southeast Asia as the period of the last 'great enclosure movement' affecting upland people. This, Scott claimed, was 'to ensure that their economic activity was legible, taxable, accessible and confiscatable or, failing that, to replace it with forms of production that were'. This volume does an admirable job of capturing the tension between these two views of the future. Rambo is correct. Swidden farming and

improved fallows will remain an important part of many remote landscapes in South and Southeast Asia. But Scott is also correct, and swidden will continue to disappear from vast portions of the region. It is important to capture both stories — on one hand, the loss of swidden and the implications of that loss for the environment, livelihoods and cultures; and on the other, the ways in which swidden continues to exist and prosper and the roles of improved fallow management in its continued existence. The papers in this volume tell these stories.

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