SHIFTING CULTIVATION AND ENVIRONMENTAL CHANGE

Indigenous People, Agriculture and Forest Conservation

Edited by Malcolm F. Cairns

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Front cover sketch:
A Hanunó’o Mangyan girl harvests swidden rice in Mindoro Province of the Philippines. This was the swiddening group made famous by Harold Conklin’s pioneering work in the early 1950s.
Sketch based on a photo by Malcolm Cairns.

Back cover sketch:
A farmer of the Kiranti people from east Nepal returning from the field carrying her doko *(basket)* with a *namlo* (head strap). Ilam, Nepal.
Sketch based on a photo by Malcolm Cairns.

DEDICATION

This book is about farmers – so it's probably appropriate that it be dedicated to a lifelong farmer – my own father, William Cairns.

Born on 17 September 1928, Bill, as he was known to many, married on 23 November 1957, at the age of 29. After spending a lifetime farming his family's ancestral land in Freetown, Prince Edward Island, his contributions to the agricultural community were formally recognized on 27 October 2011, when, at the age of 83, he was inducted into Canada's Atlantic Agricultural Hall of Fame.

As a youngster, it was thus my good fortune to grow up as both the son and grandson of very capable farmers, and develop an early love for agriculture and respect for farmers. In fact, after graduating from the Nova Scotia Agricultural College, my brother and I represented the sixth or seventh generation of our family to farm that same land, since our ancestors had emigrated from Scotland in 1832. So when ethnic minorities in my areas of research talk about their deep attachment to ancestral land, I always knew exactly how they felt.

It was my father who taught me to turn over the sod in a field with a moldboard plough like a work of art, with the field as my canvas. It was he who taught me that the presence of sheep sorrel (*Rumex acetosella*) was an indication of acidic soil. Fields infested with couch grass (*Elytrigia repens*), he advised, should be harrowed, rather than disked, because disking would simply slice the rhizomes into many small pieces, and worsen the infestation. The call of the blue jay, he counselled, meant that rain was approaching. It was he who, through his story-telling, taught me the pride, integrity, and hard work of our ancestors. These were the values that he clearly wanted to pass on to the next generation. Whatever skills and perspectives that I bring to my work as an Agricultural Researcher, many of them were learned from him. Although he may have hoped that I would follow in his footsteps on the farm, I can only hope that he understands that I strayed to a different path – but one that still allows me to use many of the things that he taught me.

When I was a young toddler, my father used to like to sing to his three young sons, '♫ *The bear went over the mountain, the bear went over the mountain, to see what he could see* ...♫'. Little did I realize that I would spend a substantial part of my life following that bear, investigating land-use systems on the other side of the mountain.

Thanks, Dad; this one is dedicated to you! It was pioneering sons of the soil like you who built Canada and made it great.

CONTENTS

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

A. Shifting cultivation in an era of climate change

3. Specialization for markets or continued agrodiversity for subsistence?

A. When swidden fallows become the domain of commodity crops

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 meta-analysis 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

[*] Dr Jefferson Fox is a senior fellow at the East-West Center, Honolulu, Hawaii, and a member of the affiliate graduate faculty in geography and anthropology at the University of Hawaii. He conducts research on land-use and land-cover change in Asia and the impact of these changes on the region and the global environment.

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 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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PREFACE

*Malcolm Cairns**

A stroke of bad luck

A preface generally explains how a book came to be written. That is unavoidably a very personal story for this book. This story may perhaps logically begin with a police raid on a condo unit in Chiang Mai of northern Thailand in September of 2008. Upon gaining entry into the dark, single-room unit, they found a male Caucasian lying semi-conscious on the floor, next to a bed. Sheets had been pulled from the adjacent bed by the subject, in an attempt to gain some protection from the cold.

Standing over the prostrate subject on the floor, the police then engaged in a conversation about how this was likely to be a drug arrest. A Thai woman who had accompanied the police interjected to assure them that whatever had happened, drugs would not be involved. I know this scene well because I was that male Caucasian on the floor, and could hear the conversation going on above me.

The reality was that I'd suffered a massive stroke four days earlier, while trying to drift off to sleep sometime after midnight. It had been my father's birthday that day, on 17 September 2008, and I'd skyped him before going to bed, so that I could sing happy birthday to him. That accomplished, I'd gone to bed and the stroke must have happened shortly after. Rolling over, I'd lost my balance and fallen off the side of the bed. The stroke had left me paralysed on my left side, and unable to regain my feet and get back into bed. That left me trapped on the floor. The analogy that occurred to my confused mind was that of a malfunctioning USB hub, and that no matter how much I 'clicked', my left limbs refused to work. With the thick curtains pulled tightly across the window, I was further handicapped in that the room was pitch black and I couldn't see anything. Only the soft glow from my laptop's screen, still turned on, on the desk above me, provided the slightest illumination in what had suddenly become my dark prison. Soon my laptop lapsed into sleep mode, and even that meagre light was gone. To make matters worse, I had been in the final stages of revising my PhD dissertation when this all happened, and piles of books covered my floor, arranged for easy access. I couldn't move without knocking over a pile of books. Little could I have imagined that the old joke about PhD meaning 'permanent head damage' would turn out to be so true in my case!

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I have a lot of memories of struggling to crawl back onto the bed – but how many are real and how many imagined, I don't know. I was probably drifting in and out of consciousness. Time became a blur. It was hard to keep track of the passage of days, since the thick curtains didn't allow any daylight to penetrate. I remember hearing my cell phone ringing – high above me on a bookshelf and well out of reach – and feeling comforted that somebody might have noticed my absence, and might be searching for me. But eventually the phone batteries died, and even that companionship was gone… leaving only silence and darkness.

In fact, an anxious friend, living far in the deep south, had become alarmed that I couldn't be contacted, either by telephone or online. She was concerned that I might have become a victim of the political violence that was sweeping Thailand during that time. Her first step was to phone the condo administration, and ask them to check on the occupant of Room 211 – but they refused, citing reasons of privacy. She then had to resign herself to spending the next two days on the train, making the long trip from Thailand's far south up to Chiang Mai in the north, to look for herself. When she finally did arrive in Chiang Mai and asked the condo staff for access to my room, they again refused – and that's when she had to involve the police and organize a raid on my room.

Brain cells die by the millions after a bad stroke releases blood into the brain – but they say that if stroke victims can receive treatment within three hours, then the effects can be minimized. After four days, lying alone in a darkened room, as my brain haemorrhaged, I knew that I was lucky to still have a pulse when they finally lifted me onto a stretcher and carried me out to a waiting ambulance.

What does this almost tragic tale have to do with this book? In normal circumstances, it is a near certainty that after finalizing my dissertation, I would have headed back up a mountain to continue my research. But suddenly finding myself a hemiplegic and physically unable to return to the field, my thoughts were forced to turn to how I could continue to make a contribution to my chosen field while faced with this handicap. The *Voices from the Forest* (2007) volume had just recently been released, and there were already calls for a sequel. It was thus that the groundwork was laid for this sequel. Working on a book project was something that I could do with the one hand still available to me, albeit slowly. So, in short, it was my near death that resulted in the rise of this book.

Is the sky falling?

The spectre of snow on the pyramids in Egypt in December of 2013 raised a lot of eyebrows and undoubtedly increased angst about global climate change. As mankind attempts to reduce the release of anthropogenic greenhouse gases into the atmosphere, it's too easy for shifting cultivation to become a scapegoat for what are far more modern problems. The optics are admittedly bad. Entire hillsides of forest can be felled and set ablaze, releasing billowing clouds of smoke. For those without intimate knowledge of how shifting cultivation actually works, it seemed a 'no-brainer' to

condemn this system of agriculture and demand its replacement with other forms of land use. And yet, a growing cadre of researchers, some of whom have spent almost entire lifetimes researching shifting cultivation, find it an admirable land-use system, that has much to teach us.

Regardless of our admiration for shifting cultivation, it probably doesn't make sense to advocate its 'preservation' as a museum piece, as I've heard urged at some meetings. Shifting cultivators will continue to modify their land-use practices in response to changing pressures and opportunities, as they always have, as farmers continually experiment with better ways to manage their limited resources. One would hope, though, that Western agriculture, which depends so much on technology and chemical inputs to 'over power' nature, could learn something from shifting cultivators, who are much more adept at 'hitching a ride' with nature, as a surfer does with a large wave.

As shown by the collection of photos in the coloured plates section of this book, farmers across the Asia-Pacific region have independently developed remarkably similar methods of shifting cultivation. It is unlikely that they were all wrong, and that the system has little to recommend it. We need to look more carefully.

Whatever your opinion may be, what is clear is that myriad powerful forces are coalescing to dramatically reduce traditional forms of shifting cultivation. This was to the extent that international meetings held in Vietnam in 2008 spoke in terms of the impending 'demise' of shifting cultivation! An age-old system of agriculture, thought by some to represent mankind's first tentative steps from hunting and gathering to agriculture, was believed to be heading towards extinction – and with it, a rich legacy of traditional knowledge and crop varieties. What is without doubt, however, is that shifting cultivation is under unprecedented pressures and is changing rapidly.

It was this environment of rapid change that beckoned for a state-of-the-art review of shifting cultivation as it is practised in these turbulent times. While our original intention was to focus on indigenous innovations in fallow management, in furtherance of the work begun in the prequel, the papers proposed were much more wide-ranging and we tried to accommodate them and give the book its head to develop in ways that follow current scientific interest. There was an immense interest in policy as it affects shifting cultivation, probably out of the common perception that the decline of shifting cultivation is often aggravated by getting the policies wrong. Although biodiversity loss and climate change hardly received any mention at the 1997 Bogor conference that gave rise to *Voices from the Forest*, they are clearly a major research interest now. Many authors examined the relationship between shifting cultivation and these two major environmental threats. Another major research thrust looked at farmers' best practices and innovations as they struggle to find ways to cope under increasing pressures. This has all resulted in a much wider-ranging set of papers than we had originally envisioned. When it became clear that we had received much more material than could possibly fit into a single volume, then these same themes became the basis by which we divided it into three volumes, emphasizing environment, policy and farmer innovations. That willingness to

accommodate has also meant that the list of contributing authors for the three books has become a virtual *Who's Who* in shifting cultivation research in the Asia-Pacific region. This trilogy will be a treasure trove for students of anthropology, human geography, international development, agronomy, forestry and resource management, who hold a special interest in shifting cultivation and want to learn from the region's foremost experts.

Acknowledgements

We are indeed fortunate to have had precisely the same dedicated team working on this sequel as had worked together in making the preceding *Voices from the Forest* volume such a resounding success. Their assistance was even more critical this time, since, with my left side paralysed, there was literally only half of me available to work on a book project that had grown so large that it would likely have intimidated even the healthiest editor! Beyond myself, the other two key members of the production team were Bob Hill, based in Mae Ma Lai, about 40km outside of Chiang Mai City, and Tossaporn Kurupunya, working from her rubber plantation in Trang province of southern Thailand. We relied on the Internet for communication and to pass files back and forth. In fact, we became the perfect example of how remotely based colleagues can work effectively on a project of this nature, given the modern-day availability of the Internet. We all worked from our own homes, and it became an impressive example of cost-effectiveness, as there were no costs for office overheads, plane tickets, or hotel accommodation that seem to take such large bites from development budgets. The uniform and easy readability of the papers in this book is chiefly owed to the careful copy-editing of Bob Hill. In the final dash for the line, we also called on the copyediting assistance of Janice Twaddle from Brockville, Ontario. After Bob finished with each paper, he passed it down south to Tossaporn for her to format according to Earthscan's specifications. Coming in from tapping rubber, her hands still sticky with latex, Tossaporn would switch on her computer and begin her work. Both Bob and Tossaporn are immensely patient and skilled in their given tasks, and I couldn't have asked for better colleagues to work with. Both are owed the most fulsome of thanks for their essential roles in this book's success!

Given that I was seriously ill while working on this multi-year project (2009–2014), it was necessary to have special help to keep body and soul together, and make sure that I was in condition to work. Throughout this time, an enormous debt of gratitude was owed to my physiotherapist, Khun Suthida Chantamanas (Ae), for her constant treatment and prayers for my recovery. Her warm smiles and constant good cheer were hugely important to bolstering my spirits and seeing this project through to its end. Warm thanks are also owed to my care-giver, Chanchira Rattanamanachai (Fa), especially for her task of ensuring that I had a coffee in hand before starting each day's work.

Papers were sometimes submitted without professionally drawn maps, and it then became our headache to make up for that deficit. We wanted readers to easily be able

to refer to an accompanying map to see where each author was writing about. Warm gratitude is thus owed to our team of cartographers: Joshua J. Ryan, Rebecca Bicksler, Manthita Duangchai and Jaisanee (Kittima) Kidarn, all of whom contributed excellent maps that will help our readers immensely in orientating themselves geographically to the study sites that they are reading about.

Beyond the maps, we also sought out artwork that could help break up long blocks of unbroken text and make the book more readable. The impressive charcoal sketches that are used as section openers were rendered by Paradorn Threemake, a Thai artist of immense talent based out of Chiang Mai's Night Bazaar. Paradorn also drew the charcoal sketches that appear on the book's front and back covers, and all the line drawings found in the cartoon paper, located in the concluding section.

Since this is essentially a book about plants and their management by indigenous peoples within swidden systems, we also wanted to include some botanical sketches that would help readers identify some of the key plants discussed. The idea was to insert these botanical sketches into the paper somewhere early, so that the reader could think,'*Oh, that's the plant that he is talking about. I've seen that growing in such and such a village – or possibly along the road – but hadn't recognized its botanical name.*' And then, having personally identified the plant in his or her mind, the reader continues to read about it with increased interest.

For this task, we called on the help of a freelance artist in Indonesia, Wiyono, based out of Bogor. (Like many Indonesians, Wiyono goes by only one name.) The botanical sketches scattered throughout the book are his creations. Both Paradorn and Wiyono had also contributed their artistic talents to the preceding *Voices from the Forest* volume. This is another example of how this sequel has benefited from keeping the old team intact. After receiving botanical sketches from Wiyono, we then asked the help of Professor James F. Maxwell of Chiang Mai University's Biology Department in evaluating them and searching for any botanical inaccuracies.

The cartoon caricature at the end of this Preface was drawn by Ajarn Krich Buasuk (Ajarn Green), another local artist here in Chiang Mai. It is the only example of his work in the volume.

The enthusiastic response of the research community to our announcement of this book and call for papers was immensely gratifying. Everyone seemed excited at the prospect of a sequel to *Voices from the Forest*, and wanted to be part of it. It was that groundswell of enthusiasm that led to this book reaching the dimensions that it has, and indeed, that there are two further volumes in the pipeline. From among the long list of contributing authors, there are a few whose contributions were particularly outstanding and deserve special recognition.

The first of this elite group that comes to mind is none other than Dr Carol Colfer of CIFOR and Cornell University. While I know for a fact that Dr Colfer was already too preoccupied with other work to participate in a book like this, she is so kind – and committed to the subject – that she not only co-wrote one of the introductory papers, but then continued on to coordinate a panel of experts in undertaking a gender analysis for the entire book. And she did it all with such

grace and continual good humour! The commitment displayed by some authors was humbling. One of our most respected scientists, Dr Percy Sajise, wrote his paper from a hospital bed between surgeries, and while attending funerals for lost family members! One can only regard his commitment with awe! Beyond delivering a paper on his work in Bhutan and sharing his photographs, Dr Stephen Siebert deserves special thanks for his constant encouragement, friendship, and offers to help in any way that he could. At ICIMOD, Dr Dhrupad Choudhury showed himself to be an up-and-coming force in shifting cultivation research by contributing a total of three important papers!

Drawing chiefly from their expertise in Indochina, our French colleagues made a large contribution to this shifting cultivation trilogy, and particularly for the two volumes to follow. Several scientists are particularly notable for the weight of their contributions. Despite a hectic schedule and a hand injury, Dr Olivier Ducourtieux delivered two thought-provoking papers on his work in Lao PDR, and one of the stunning photos in the coloured plates section of this volume was taken by him. Another familiar name in Laos, Dr Laurent Chazée, also contributed two valuable papers and several photos that would have been a credit to any professional photographer. Our French colleagues' work is all the more impressive in that it wasn't written in their mother tongue!

Finally, Dr Ken MacDicken deserves to be singled out for special recognition. He undertook the enormous task of reading almost every paper that we received, and drawing from them in developing a policy synthesis chapter for inclusion in the following volume. Dr MacDicken is a CIFOR veteran, of course, and brings with him tremendous experience and expertise. We are indeed fortunate to have one of the concluding papers of book number two in the trilogy written by such a capable analyst!

These are some of the key people whose efforts were so instrumental in the success of this trilogy, and who helped to make my job so pleasant. We salute them, and want to take advantage of this opportunity to acknowledge their contributions and thank them in a very public way! As with any thank-you exercise of this nature, the danger, of course, is that we will neglect to mention some names and cause hurt feelings. If I have blundered into that error, then I do apologize profusely! But length considerations alone are forcing me to limit my remarks.

The method by which this book trilogy was assembled over the internet was a bit like a virtual symposium, with each participant given a turn at the microphone to present his or her research findings. Those findings have now been collated into this book, and the two volumes to follow. While reflecting on the community of researchers working on shifting cultivation, two clear voices of reason are sadly missing from this effort. Normally, Dr Sam Fujisaka, most recently at CIAT, and Dr Harold Olofson, formerly at the Anthropology Department of Cebu University in the Philippines, would have been two of the first colleagues that I would have approached to participate in this trilogy. Both were valued mentors and friends. But sadly, both have already published their last papers. Their absence reminds us all of

our own mortality, the fleetingness of time, and the need to make a contribution while we still can. Time stands still for no man.

This project has, I think, become a huge success even before this book hit print, in that it has gotten people talking and writing about shifting cultivation again. It has even stimulated new field research. I know, for example, that Drs Anungla Aier (Nagaland) and Rob Kelly (Laos) were among those researchers who returned to the field specifically for the purpose of gathering new data to be written up in their respective papers.

As I once read Dr Carol Colfer observing in an online blog, shifting cultivation seems to inspire unusual passion and commitment amongst its researchers. For me, it was a natural fit. As a young man fresh out of high school, I had first studied agriculture at the Nova Scotia Agricultural College. I later added a Master's degree in Environmental Studies from York University, that had a strong focus on shifting cultivation in its fieldwork. And I most recently completed a PhD in Anthropology from the Australian National University that provided me with the opportunity to undertake intensive fieldwork on the Angami Nagas and their management of *Alnus nepalensis* in their dryland fields. So … what subject better intersects the interests of agriculture, environment and indigenous peoples more perfectly than shifting cultivation? That, in a nutshell, very easily explains why I do this work.

As cost-effective as we might try to be, nothing happens without some funding support! Warmest thanks are therefore extended to the following organizations, without whose generosity, this book would not have been possible:

- the Australian Centre for International Agricultural Research (ACIAR), Australia
- the World Agroforestry Centre (ICRAF)
- Agriculture and Food Security Program, the International Development Research Centre (IDRC), Canada
- the International Centre for Integrated Mountain Development (ICIMOD), Nepal
- the Centre for Southeast Asian Studies (CSEAS), Kyoto, Japan
- Willscott Farm, Prince Edward Island, Canada

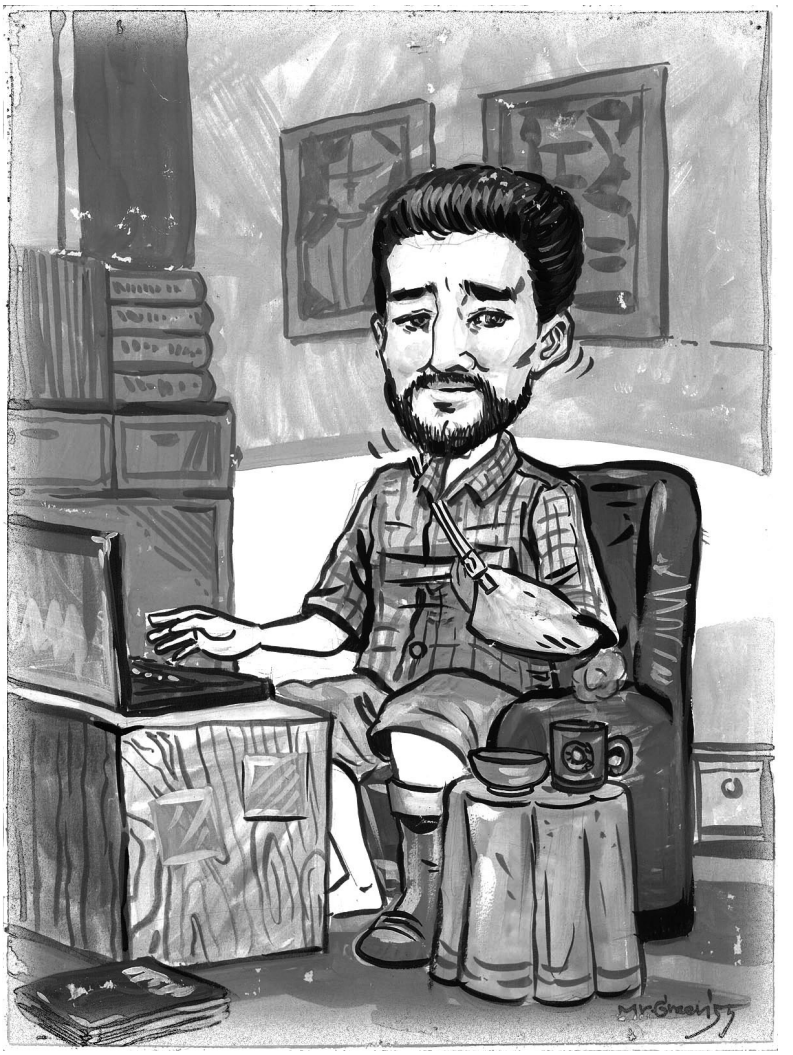
These are the main supporters of this volume, and as such, it is generally their logos that the book displays.

Some explanation is required. ACIAR, ICRAF and IDRC were also among the main donors that made possible the *Voices from the Forest* prequel. Their grants to this sequel were thus a continuance of funding support for the good work that they had earlier supported. ICIMOD placed a substantial bulk pre-order for the book that both helped to build the publisher's confidence in the potential sales volumes for the book, and will ensure distribution of the book to ICIMOD's partners. CSEAS's support was indirect, in that it provided a six-month fellowship to the Editor while he continued to work on the volume in Kyoto. CSEAS professor, Dr Kono Yasuyuki,

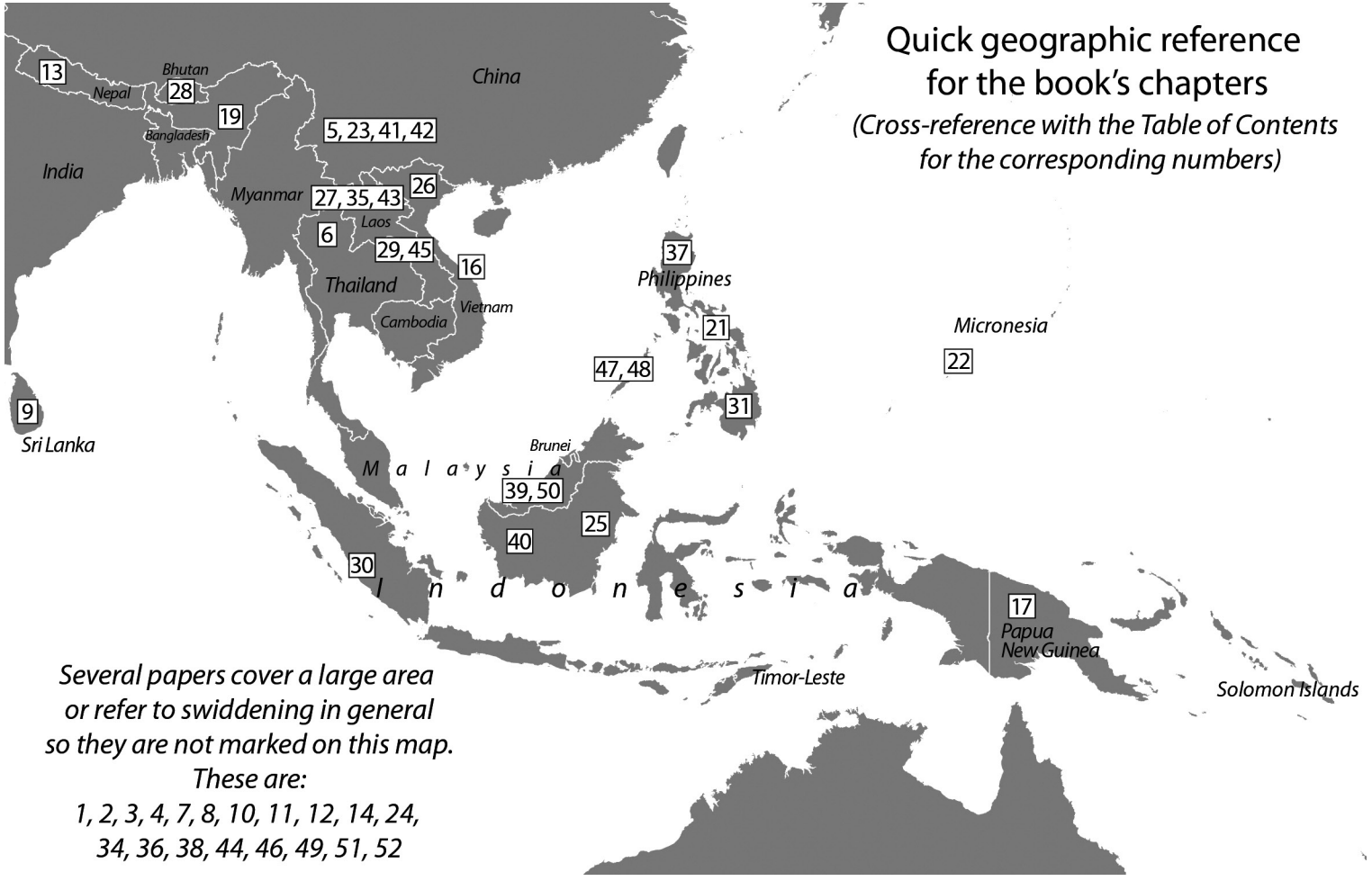
was also instrumental in that he coordinated Japanese participation in the book. In a similar manner, beyond providing a direct grant to the publisher, the ICRAF Kunming office supported the Editor in spending two months with them as a visiting scientist, while continuing to work on the book. The last entity listed, Willscott Farm, is in fact, not a normal donor – but a family-owned dairy farm on Prince Edward Island, Canada. It is, in fact, the ancestral farm that I grew up on. Health care is free for Canadians who are resident in Canada. But the same is not true for Canadians living outside their home country, as I have been while working on this book.

I was living in Chiang Mai when I suffered the previously described stroke and I've continued to base myself here since, for the purposes of working on this book and continuing therapy. Disabled and unemployed, I've been able to survive this rough period through the financial support of my father, William Cairns. His support was sufficiently generous that I could direct roughly half the amount transferred to the needs of this book project. This book was thus substantially supported through milk revenues, and primarily for that reason it has been dedicated to Mr Cairns, himself a well-known dairy farmer. It was his support through his sick son that, more than any other factor, allowed this book to reach publication. This is a noteworthy aspect of the book's support, because it represents a farmer in a relatively wealthy country supporting work helpful to fellow-farmers who live a much more precarious existence elsewhere in the world. That's something to be encouraged and admired! I applaud my father's generosity in lending a helping hand to those in need! Imagine what a better world it would be if we behaved on a national level as he does on a personal level! As a young boy growing up, I often saw my father helping neighbouring farmers up and down the road, usually with labour or the use of his machinery, particularly during busy sowing and harvest times. Now, in his elder years, his reach has extended to the other side of the world. I had in effect become the overseas arm of Willscott Farm.

They say that *the apple never falls far from the tree* – but in this case, the apple and the tree teamed up in a father-son effort to overcome obstacles and make this book happen!



Throughout much of this book project, the Editor worked with his left leg in a splint and his left arm in a sling – the outcomes of a devastating stroke. Only his right hand remained available for tapping at his laptop's keyboard


Quick geographic reference
for the book's chapters
(Cross-reference with the Table of Contents
for the corresponding numbers)
13
Bhutan
Nepal
28
19
Bangladesh
India
China
5, 23, 41, 42
Myanmar
27, 35, 43
26
Laos
6
29, 45
16
Thailand
Vietnam
Cambodia
37
Philippines
21
47, 48
31
Micronesia
22
9
Sri Lanka
Brunei
M a l a y s i a
39, 50
25
40
30
I n d o n e s i a
17
Papua
New Guinea
Timor-Leste
Solomon Islands
Several papers cover a large area
or refer to swiddening in general
so they are not marked on this map.
These are:
1, 2, 3, 4, 7, 8, 10, 11, 12, 14, 24,
34, 36, 38, 44, 46, 49, 51, 52