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Extreme Conflict and Tropical Forests

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There are many compelling reasons for policymakers to pay more attention to forested regions and invest more resources there. Forests provide valuable products and environmental services and several hundred million extremely poor people live near them. Perhaps the most compelling reason of all, however, is that unless policymakers take forest governance seriously and respond better to the needs of the people living there, these regions will continue to be breeding grounds for violent conflict, banditry, and illicit crops.

From Nicaragua’s Atlantic Coast to the jungles of Cambodia, there are several dozen countries around the world that have experienced severe breakdowns in law and order in their forested regions. In many of these cases those breakdowns had widespread economic, social, and political consequences that have threatened entire societies. You would think that after all of the suffering over the last few decades in the forested regions of Colombia, Peru, Mexico, Guatemala, the two Congo’s, Liberia, Mozambique, Philippines, Solomon Islands, Nepal, Angola, Rwanda, Nicaragua, Côte d’Ivoire, Myanmar, Bangladesh, India, Sri Lanka, Indonesia, Sierra Leone, Senegal, Sudan, Uganda, and Vietnam people would begin to take note. After all, they don’t call it jungle warfare for nothing.

Nonetheless, extreme conflicts in forested regions have just begun to get the attention they deserve. Recent years have seen a flurry of writing and discussion on the topic, and this book edited by Wil de Jong, Deanna Donovan, and Ken-ichi Abe has been able to build on that. The editors managed to pull together a great collection of essays covering a wide variety of the relevant cases and themes, which will undoubtedly be useful for both academics and practitioners.

Some chapters focus more on why forested regions have so much violence, while others look more at the environmental and social impacts of the violence that has already occurred. Various chapters also make clear that the environmental, social, and political effects of armed conflict in forested regions linger on long after the shooting stops. Indeed, post-war periods may well pose the greatest dangers for forest ecosystems. Underlying all this discussion is a constant preoccupation with what might be done to make things better, including everything from sanctions to stop timber exports from funding armed conflict to “peace parks” that encourage dialogue on tense borders.

Those of you worried about conflict should read this book to discover new ways to address it. For those working on forests you can expect to find useful insights into some major factors that are currently influencing their condition. Specialists focusing
FOREWORD

on specific regions such as the Congo Basin, Mekong Delta, or the Amazon can learn a lot from seeing familiar stories presented in innovative new frameworks. This research has certainly enriched my own thinking about these issues, and I am sure it will enrich your own views as well.

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CHAPTER 1

TROPICAL FORESTS AND EXTREME CONFLICT

DEANNA DONOVAN, WIL DE JONG, AND KEN-ICHI ABE

“If trees could speak, they would cry out that since they are not the cause of war, it is wrong for them to bear its penalties.”

—Hugo de Groot, seventeenth century

1 INTRODUCTION

Is it coincidence that of all the conflicts of the twentieth century at least half have been in forested areas? Some people have been asking if this is happenstance or whether there is something about forests that attracts discord. The phenomenon is not only widespread but very worrying, both from the perspective of the threat to the unique ecosystems affected as well as the communities involved. Given these circumstances, a better understanding of the linkages between tropical forests and extreme conflict could assist policymakers and practitioners alike in grappling with the major issues associated with conflict resolution and environmental conservation. Better informed decision making would contribute greatly to addressing security concerns, a key issue on the agenda of many governments and international agencies and organizations around the world today.

Over the last 50 years civil war has become the most common type of conflict. Indeed, the international intervention in Iraq, so prominent in the news of late, is fast becoming a civil war, if not already. There seems to be a tendency for some conflicts initially internal to become internationalized as one or more foreign powers become involved directly or indirectly. Close examination of these incidents reveals that forests and extreme conflict1 show a strong relationship. Three-quarters of Asian forests, two-thirds of African forests and one-third of Latin American forests have been affected by violent conflict. Currently there are violent conflicts on almost every continent. In Latin America armed violence is prominent in the forest areas of Colombia, in the forest

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1 Extreme conflicts are those that go beyond localized conflict with only local actors. Civil war is an extreme conflict, defined by Singer and Small (1982, cited in de Koning, 2006) as war with at least 1,000 battle related deaths, of which 5% are among rebel and government forces. The cases discussed in this book all fall within this category.
foothills of the Peruvian Andes, and in several Central American countries (see Chapter 4). On a smaller scale, but locally significant, are conflicts in the forest regions in Bolivia and Brazil (e.g., Ruiz, 2006). Conflict across Asia including in Afghanistan, Pakistan, India, Nepal, Myanmar, and Indonesia, among other countries, regularly makes the headlines. Almost daily we receive reports of violence in Africa, including in the Sudan, Uganda, the Congo, Liberia, and Nigeria (e.g., see Chapter 3). Over the past two decades armed conflicts have raged in the forested regions of Burundi, Cambodia, the Central African Republic, Guatemala, Mexico, Mozambique, Nicaragua, Peru, Rwanda, the Solomon Islands, and Surinam.

Together the countries affected by violent conflict are home to more than 40% of the world’s tropical forest. Indeed, the last remaining tropical forests are located in areas that over the past two decades have been subjected to such conflict. Tropical forests have been not only the venue of vicious confrontation but also the victim. But what is the relationship? Forest resources are exploited by both refugees and combatants alike for provisions and marketable raw materials. Trade in tropical timber has financed violent conflict in the Democratic Republic of the Congo (DRC), Liberia, and Sierra Leone in Africa (see Chapters 3 and 7) and Cambodia and Myanmar in Asia (Le Billon, 2001, Chapter 2), among other countries. Nontimber resources, such as wildlife in Africa and medicinal plants in Nepal, have also been exploited by insurgents while forest in Colombia, Peru, Bolivia, Laos and Myanmar have been felled in order to open land for the cultivation of illicit drug crops used to finance conflict in these regions (see Chapter 8).

Discourse on the linkages between resources, such as timber, and violent conflict has caught the attention of policy makers over this past decade and has begun to influence both foreign and environmental policy. Certainly conflict timber, or timber that is traded to finance armed combat, has been subject of discussion at the highest international levels, inter alia, the United Nations Security Council (UNSC, 2001). Several publications have called attention to this worsening crisis (e.g., Austin & Bruch, 2000; Blom et al., 2000; Price, 2003; Shambaugh et al., 2001; see also Chapter 7). Over the past few years the situation vis-à-vis tropical forests and extreme conflict has failed to improve and, with regard to the level of environmental destruction, may even have worsened.

This book takes an in-depth look at some of these conflicts, past and present, which have so closely involved tropical forests. Authors from a variety of backgrounds including people who have spent many years on the ground in tropical forest regions bring their knowledge and experience to focus on this topic. They discuss the impetus as well as the impacts and implications of extreme violence in tropical forest areas. Some too offer suggestions on how the issue, both the conflict linked to tropical forests and the negative impact this may have on the forest and its biodiversity, might be addressed. Ultimately if the forest suffers, society suffers. We hope this book offers some insight to the relationship between forest and society when violent conflict erupts. If we understand better the role of forest, the reasoning of the combatants, and the result of this connection, perhaps we will be better prepared and more politically motivated to take steps to address these activities and their affect on the tropical forest. In mitigating the
impact of extreme conflict in tropical forest, we spare not only the natural environment but the societies that depend upon these resources for their well-being and livelihood.

This first chapter presents an overview of the several themes related to tropical forests and extreme conflict linking them to the various chapters in this book. This chapter summarizes some of the discussion centering on the following two key questions: (1) Given the observed correlation between tropical forest and extreme conflicts, what role do tropical forests have in these conflicts, if any and (2) what is the impact of extreme conflicts on tropical forests, and discusses these questions vis-à-vis the subsequent chapters in the book. Divided into five sections this introductory chapter first explores the historical continuity of the key issues that characterize the tropical forest–extreme conflict link. The next section summarizes various theoretical debates on the issue, introducing evidence from the various chapters that follow. The subsequent section turns to the impact of extreme conflicts on tropical forests while the final section explores the implications of the forest–conflict link.

2 CONFLICTS AND FORESTS IN HISTORY

Most of the chapters in this volume examine contemporary cases to explain the link between violent conflict and tropical forest. This may give the impression that this phenomenon is only of the modern age. In fact forest resources have figured prominently in wars for thousands of years as, among other roles, a source of raw materials, a venue of war, or as a buffer zone separating opposing groups (see Chapter 10). Recognition of the severe environmental impacts of extreme conflict dates back several centuries at least. The history of extreme conflicts and tropical forests is relevant, as it sheds light on the evolution of links and causalities. The theoretical debates that have emerged over the past several years regarding the relationship between natural resources and extreme conflict brings us up-to-date in our review of this relationship.

The significance of the continuum of the forest–extreme conflict link emerges in reviewing how this relationship evolved. In most areas from the perspective of the ruling group the natural resources, including the forest, to which it has access are important sources of wealth and power. Considered a “strategic” resource since earliest times, forest provided impediment to invaders as well as refuge and resources to residents and rulers alike (Donovan, 2003a). From the forest came the raw materials for construction of ramparts and battering rams, the charcoal to produce the metal and subsequently the munitions and the timber and naval stores to build the navies, which played a key role in the defense strategy of the major powers well until the end of the nineteenth century (Perlin, 1991). Invading armies also looked to local resources, including forests, to meet their needs, both for the provisioning as well as the protection of their forces (Christian, 1945; Clausewitz, 1987; Peluso, 1992; Thuy, 2000). For societies under siege local forests could often provide substitute resources to ease the hardship of wartime blockade (Offenberg, 2003; Tsutsui, 2003). Even after cessation of violent conflict, forests have continued to play an important role providing the victors the resources to reward family, friends, loyal followers and other favorites for their support (Donovan,
The history of Southeast Asia illustrates these points. Since the earliest days of international trade, forests provided the high-value products that the governing powers could barter or sell for the cash for luxuries, armaments and other goods which could be sold to augment government income.

For many of the governments in Southeast Asia the trade in forest products remained a major source of government revenues for several centuries (Boomgaard, 1995; Donovan, 2003b; Reid, 1993). Attacking and destroying local kingdoms and sultanates European countries initially occupied territories in Asia in the late fifteenth century largely in order to gain control of the forest rich in natural products so valued in international trade at that time, such as spices and incense. Government revenues from these resources, whether in the colonial era, which lasted several hundred years, or postcolonial era since World War II, have been expended in large part on maintaining the existing power structure through support of a strong military presence. Thus the traditional link between the tropical forest and the military has persisted well into the modern era with many modern nations supporting their armies with proceeds directly from natural resource exploitation (e.g., Barber & Talbott, 2003; Nette, 1995; Van Zorge, 1999; see also Chapters 2 and 3).

An issue seldom addressed in the contemporary tropical forest–extreme conflict debate is how the nature of the relationship has changed over time especially due to the impact of technological progress. With the evolution of military hardware and communications technology, the main instruments of warfare have changed and so too the role of the forest. Whereas initially forests provided the raw materials directly needed for conflict, increasingly forests have become important sources of high-value products, such as timber, that are sold to provide the hard currency required for purchasing modern armaments (UNSC, 2001; see also Chapters 2, 3, and 7). While formerly forest products were obtained from remote areas by way of often lengthy and complex supply chains involving several ethnic groups, some traditionally hunter-gatherers and others traders, today improvements in transportation and communications technology have led to a situation in which virtual strangers can arrive in the heart of the forest to harvest valuable forest products with local people often being bypassed. Increasingly local communities resent this intrusion and disenfranchisement and are resisting these outside forces. It can be expected that in the future technologies currently under development will, for instance, allow better monitoring of log extraction and movements (see Chapters 3 and 7) and thus may again change the relationship between extreme conflict and forests in the future.

Most remaining natural forest today exists in remote border areas, distant from central government headquarters. Although timber and charcoal may no longer be used directly for the production of weaponry, the traditional view of the forest as a source of strategic materials still underpins many a government attitude toward forest management. The remote frontier forests, however, are commonly inhabited by indigenous communities, and people driven to the margin, economically as well socially, politically and geographically (de Jong et al., 2006). In areas often marginally suited for agriculture, far from regular markets and lacking access to capital, the inhabitants look to the natural resources, essentially the forest, to provide the means, physical and
financial, for their survival and influence. Where more than one group, including central government, seeks control of available resources you have the seeds of potential conflict.

Because forest resources have historically been used both to shelter and to sustain insurgents, in some cases the forest has also been targeted for destruction (e.g., see Chapters 9 and 10). Environmental destruction is a long enduring if lamentable strategy of armies seeking to deprive the opposition of refuge and resources. With the objective being to punish and subdue one’s enemy—as opposed to obliterating them—a scorched earth policy was a common tactic of much of early warfare. Thus, although not a new phenomenon, due to new technologies the effectiveness of such forest destruction during extreme conflict has increased tremendously over the years.

Throughout history, however, societies have recognized both the significant social as well as economic impacts of environmental destruction accompanying extreme conflict, and in some cases it has voiced its concern. One of the earliest calls for restraint was recorded by a scribe serving the Greek admiral, Nearkhos, exploring India in the fourth century B.C., who noted that “if there is an internal war among the Indians, it is not lawful for them to touch these land workers, nor even devastate the land itself” (Hughes, 1993, p. 18). Much later in seventeenth century Europe Hugo de Groot, the noted Dutch legalist produced the treatise “On the Law of War and Peace” in which he proclaims “If trees could speak they would cry out that since they are not the cause of war it is wrong for them to bear its penalties.” Attempts to limit the impact of war on civilians and the environment have been codified since the 1800s. Thus, laws dating from the mid-nineteenth century forbade the use of certain weapons, restricted the means and methods of warfare to protect property, and established rules for the treatment of civilians and prisoners.2

After the Vietnam War we have seen the international community respond to the U.S. government’s campaign of herbicide spraying in Southeast Asia (see Chapter 9) and to allegations of U.S. attempts to manipulate weather over Vietnam with the ratification of the Environmental Modification Convention (1976) and the Additional Protocol I to the Geneva Convention (1977), which prohibit actions that could bring about long-term (or long-lasting), widespread and severe environmental damage (Austin & Bruch, 2003). Not until more than a decade later during the Gulf War in 1991 did the international community and concerned scholars have a chance to examine the adequacy of these measures and other international legal structures (Austin & Bruch, 2000). Environmental lawyers Austin and Bruch (2003) in assessing the progress in the development of norms and institutions to prevent, assess and redress wanton environmental damage resulting from armed conflict note not only a lack of clarification of legal norms, but also of the scientific and economic tools and political will to implement them. A more recent, perhaps more positive step may be the 2003 decision by the International

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2For example, the Declaration Renouncing the Use in Time of War of Certain Explosive Projectiles, St. Petersburg, 29 November/11 December 1898; the Lieber Code of 1863; the Hague Conventions of 1899 and 1907.
Criminal Court to investigate companies dealing in so-called “blood diamonds” (BBC, 2003). This may indicate a greater willingness among the international community to take more interest in the larger issue of the role of natural resources in contributing to the prolongation of extreme conflict.

3 EXTREME CONFLICT AND TROPICAL FORESTS

A debate has developed on the contemporary links between tropical forests and extreme conflicts. Before examining the implications of this debate based on the chapters presented in this book, we will first summarize the broader discussion on resources and extreme conflict.

3.1 Extreme Conflict and Environment Links

Disputes over resources are regularly reported as causes of conflict (Anonymous, 2004; Francis, 2002; Woods, 2003; Yeh, 2000). The linkage, however, between extreme conflict and competition for resources is not as straightforward. In quite a few cases competing stakeholders are able to resolve their differences without resorting to violence, suggesting that there are other circumstances that may explain a natural resource–extreme conflict causal link.

During the 1980s a new field of study termed “environmental security” emerged as scientists sought to explain socio-economic influences on the environment and vice-versa. Scholarly debates developed attempting to explain extreme conflict in relation to natural resources. At a more general level, the discourse on extreme conflicts and natural resources can be divided into essentially three factions:

1. The camp that holds that environmental scarcity is the key driver of major conflicts. Key authors in this camp are Kaplan (1994) and Homer-Dixon (1994, 1999).
2. The camp in the political ecology tradition which sees complex causes behind the major conflicts dominated by the competition for power between different political factions and the dispossession of resources by others. This power camp includes key authors such as Salih (1997), Peluso and Watts (2001).
3. The camp that views major conflicts as the result of a combination of key factors creating an enabling environment, including the availability of finance, poor governance, and a low perceived value of human life. In this opportunity camp significant authors are Collier and Hoeflller (2001).

A decade ago Robert Kaplan pronounced that the environment would be the security issue of the twenty-first century. He argued that foreign policy would increasingly be shaped by “surging populations, spreading disease, deforestation, soil erosion, water depletion, air pollution and possibly rising sea levels . . . [which] will prompt mass migrations and in turn incite group conflicts” (Kaplan, 1994). Homer-Dixon, the second prominent proponent of this environmental scarcity hypothesis posited that conflict over scarce resources would dominate the future. However, he foresees a different pathway to such conflict. Scarcity stimulates technological change and therefore per se would
not cause problems. Rather, he argued, increased scarcity would lead to decreased economic activity, causing widespread migration, which in turn would weaken states prompting internal conflicts and violence (Homer-Dixon, 1994).

Others have taken a different route to explain the link between the environmental destruction and extreme conflict. Salih (1997) chose to examine the phenomenon in the larger social context. He argued that “dissent about environmental destruction and externalities of resource use [is actually] . . . about rights and resource control . . . .” Political ecologists argue that proclaiming conflict to be “environmental” in origin obscures the political–economic roots of the clash (Fairhead, 2001; Peluso & Watts, 2001). Squarely opposed to the scarcity camp, they hold that it is erroneous to suggest that resource depletion and the resulting poverty lead to conflict. Rather it is the underlying power imbalance and political structures that result in environmental decline. Government policies, they argue, shape and contribute to resource distribution and depletion and land-use choices.

Labeling Kaplan a “resurgent Malthusian,” Peluso and Watts (2001), argue that it is not a matter of scarcity but rather control. More specifically, they propose that the relevant question is not how much of a resource there is but who has access to its benefits. As they point out, “violence is site specific . . . rooted in local histories and social relations yet connected to . . . material transformations and power relations.” Conflict erupts where governments have moved in “their” people and alienated and marginalized the existing population, often the traditional users of the subsequently disputed resources. Such scenarios have been repeated throughout history, around the world, and in every culture. Thus, they contend, extreme conflicts are in most cases the result of a long history of power usurpation linked to material control.

Proponents of the third camp observe that most contemporary conflict is civil or internal. Collier et al. (2001) conducted statistical analysis of a large number of cases in an attempt to identify correlations between factors that might be causally linked. Their analysis suggests that opportunity for rebellion explains many conflicts, while indicators of grievance alone do not. The availability of finance, as they observed, is one of the key factors positively correlated with opportunity. Primary commodities, such as timber and diamonds, in providing opportunities for exploitation and extortion have proved to be a good source of finance. A climate of poor governance, which permits resource appropriation and extortion, substantially increases the risk of conflict. Moreover, money repatriated by emigrants, an important source of funding for dissident groups, also enhances the opportunity for conflict.

A second important factor that emerged from the Collier et al. (2001) modeling exercise was the perceived “opportunity cost” of rebellion. It appears that potential combatants perceive the opportunity cost of conflict to be low, especially where rates of male secondary education enrollment and per capita income are low. In effect this reflects the insurgents’ perception of the limited prospects and dismal future available to them and thus by inference a low value placed on human life. While such a “nothing to lose” mentality dominates, it was argued, many individuals in the population are apt to jump at any opportunities for extortion and appropriation of resources. In the final analysis the modelers concluded that “opportunity as an explanation of conflict . . . is
consistent with the interpretation of rebellion as greed [and] . . . grievance . . . ” motivated (Collier & Hoeffler, 2001).

3.2 Extreme Conflict and Tropical Forest Links

The many cases of apparent links between tropical forest and extreme conflict warrant their assessment in the light of the environmental security debate. Five chapters in this book are relevant in this context. The statistical correlation between the conflict and tropical forest is debated, with some arguing that cases of civil war are more common in countries without tropical forest than in countries with tropical forest (Chapter 3). This observation in itself, however, does not exclude a possible causal role for tropical forests vis-à-vis civil war in countries rich in tropical forest. In Chapter 3, de Koning investigates tropical forest conflicts in West Africa. Detailed analysis of these cases suggests that the central argument held by the Collier and Hoeffler camp, needs to be turned around for these cases. Rather than opportunities for greed being the central cause of rebellion, fostering an environment of grievance, it is the condition of grievance, caused by political inequality, lack of opportunities, and the abuse of power by traditional leaders, that provides the root cause of conflict in several of the West African cases. Under such circumstances, political opportunists benefit from such grievance by mobilizing rebel groups largely to further their own political interests. The rebel groups form in forest regions because that is where much of the grievance is located and where the disenfranchised have been pushed. The coincidence of grievance and forests thus is not accidental. Remote forest regions often have limited State presence, as noted by Staver et al. (Chapter 4). Where this limited presence coincides with stagnated nation building (Chapters 3 and 6), remote forest regions have two contributing forces that fuel grievance and that may enable this sentiment to contribute to the causes ultimately leading to civil war.

Swatuk, in Chapter 6 argues that trying to find explanation for the tropical forest–extreme conflict link through a narrow focus on the cases themselves misses the critical point that African nation states are a cultural implant that is product of a colonial legacy and a neoliberal vision of the appropriate political and economic world order. These conditions are the root causes of why extreme conflicts emerge in many of the African countries that are plagued by civil war. Some mechanisms in these processes may be linked to natural resources according to de Koning (Chapter 3), because dependency on natural resources, for instance tropical timber, he argues, is a contributing factor to the failed nation building process. Commonly governments that rely on natural resources revenues as opposed to taxes for income are often little worried about issues such as accountability and as a result reduce the delivery of services, contributing to the grievances that eventually lead to civil unrest and in some cases outright war.

In many instances forests play a more prominent role in civil wars as a venue for battle because forest cover benefits groups that pursue guerilla-style warfare. Warring factions also seek to control forest resources in order to obtain the timber or minerals that can be used to finance their operations and living costs. Some of the rebel actions may also be motivated by a desire to capture resources for personal enrichment. De Koning
(2006) suggests that the role of forest as an appropriate venue for warring factions applies to seven of the eight cases in Africa that he has analyzed. Wealth accumulation through the sales of timber, to finance war or for personal profit, applied to three of the eight cases analyzed. In all the cases, however, the underlying causes of the conflicts were not primarily interests in resources. Where forests or political and social conditions in forested regions are not a key causal factor in conflicts, over time forests may become a key element because of the diverse and unique goods and services they offer.

Even though de Koning (2006) finds little evidence of scarcity leading to conflict, and as a consequence rejects the assertions that tropical forest resource scarcity is a direct cause of extreme conflict, two cases discussed in this volume do suggest that scarcity as evidenced by the competition for resources may contribute to extreme conflict under certain circumstances. Staver et al. (Chapter 4) show that after the civil war in Nicaragua different groups looking to settle in the North and South Atlantic Autonomous Regions and the Rio San Juan Department came into conflict over the issue of limited forestland. A very similar process took place in Northwest Vientiane Province in Lao PDR (Chapter 5). The actual conflicts discussed in the two chapters are directly caused by resources scarcity. In both cases, however, the recent history of fighting, but also a history of distrust and a breakdown in the rule of law contribute to explaining why these conflicts, especially in Nicaragua, turned violent. In both cases civil wars were the cause of the emerging contestation over limited resources which then became the direct cause of conflict.

4 LEGACIES OF CONFLICTS IN THE FOREST

The extreme conflict–tropical forest debate is important to be able to understand causal links in this relationship, links which could possibly explain causes of conflicts, but also the role that forests play in perpetuating conflicts. Numerous studies have explored the impacts of war on the environment. The plight and impact of refugees from war zones is particularly moving (Biswas & Tortajada-Quiroiz, 1996; Blom & Yamindou, 2001; Sato et al., 2000; Wilkinson, 2002). Longer-lasting impacts especially with regard to the spread of disease, both in human and plant and animal populations, are less well-known but equally as important (Diamond, 1997; Karlen, 1995; Pilcher, 2004). Several of the chapters of this volume speak not only to such impacts but the longer-term implications of extreme conflict in tropical forest regions. Clearly we see that extreme conflict in tropical forests brings effects that have a long and pervasive legacy.

The most salient characteristic of Colombia’s recent history is the persistence of armed conflict, albeit of varying intensity. Conflict between belligerent groups of both the right and the left of the political spectrum is not only a key constraint to development in remote areas, but has created a political and economic climate favorable to the

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production and processing of illicit crops, the proceeds of which support the guerilla armies and perpetuate conflict. As Álvarez explains in Chapter 8, damage to the forest though indirect, that is, not the result of combat, is almost more insidious. Large areas of natural forest, some of which is in designated national parks, are felled to provide land for coca production and mountain rivers are polluted with effluent from coca processing and drug production. Although difficult to quantify given the political situation in these areas, the impact of these activities is clearly significant.

Nakamura in Chapter 9 revisits the recent history of Southeast Asia providing a graphic description of the consequences of American herbicide use in this region during the Vietnam War. The impacts of even just a few years of such activity are still with us, several decades later. Focusing on the lingering effects of these chemicals on the environment and the populations involved, he shows how the damages are not limited to the targeted forests, but affect the families of Vietnamese civilians and combatants who lived in or near those areas as well as of the American soldiers involved in the operation. Le Billon (Chapter 2), Price et al. (Chapter 7) and Staver et al. (Chapter 4) also show that the impacts of war on forests go beyond the actual period of active conflict and also affect forest governance. As Le Billon (Chapter 2) notes, both during and after armed conflict the instrumentalization of violence created socio-political conditions in which corruption and forest exploitation thrived. Forest concessions granted in many cases to reward political patronage generate a deep-seated resentment among the population at large. The examples presented by Le Billon (Chapter 2), and to some extent also by Price et al. (Chapter 7) and Staver et al. (Chapter 4), demonstrate clearly the detrimental impact of extreme conflicts on forest governance.

Describing conditions in Lao PDR in the post-Indochina War era, Fujita et al. (Chapter 5) examine how the impact of war on forests does not end with the cessation of violent conflict. With significant influence on land-use patterns and livelihood conditions in all affected areas, the impacts of wartime displacement and postwar resettlement are long-lasting. The impact of the social and economic adjustments required in the postwar period inevitably reverberate across the landscape as forest land is redistributed and the new forest management initiatives are instituted. In summary, all these chapters illustrate how forest governance remains shattered after extreme conflict and is only very slowly restored. During the postwar period valuable forest resources become fair game for remaining insurgents and for entrepreneurs attempting to benefit from the vacuum of governance. Similarly, surviving civilians trying to rebuild their lives after extreme conflict turn to exploitation of forest resources as few alternatives exist in a war-ravaged economy (see Chapters 3 and 4).

McNeely (Chapter 10) highlights the fact that extreme conflicts involving tropical forest occur often on frontiers or in border regions, generally areas of dynamic change and weak government control. Even though wartime damage may be minimal, as logging and poaching are largely restricted due to widespread violence, for the forest the respite is only temporary. In the postconflict era nearly all sectors of society look to the forest resources for the means to rebuild their lives. Thus damage to forest ecosystems and biodiversity often intensifies. The author suggests that the development of “peace parks” could contribute to fostering reconciliation, rebuilding the economy