The international Working Group on Community Involvement in Forest Management (WG-CIFM) has evolved in the last few years to raise awareness of the roles that communities play in many places around the world in the sustainable management of forests. Over 157 individuals have participated in WG-CIFM sessions representing forest departments, donor agencies, NGOs, and academic institutions from most of the world's regions. The sharing of national experiences provides a clearer picture of common issues, creating opportunities to improve national, regional, and international policies. Funded by the Ford Foundation and the United Kingdom's...
Department for International Development (DFID) the WG is currently facilitated and administered by the World Conservation Union (IUCN). The WG-CIFM is committed to discovering better ways to engage communities in the sustainable management of forestlands and for providing opportunities to communicate their experience.

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Front Cover: A forest home in northern Thailand (Photo: Poffenberger)
Back Cover: Timorese farmer in traditional dress, East Nusa Tenggara, Indonesia (photo: Poffenberger)
The graphic used on the title page and at the beginning of each chapter was adapted from an Indonesian basket design.

COMMUNITIES AND FOREST MANAGEMENT
IN SOUTHEAST ASIA

Mark Poffenberger, Editor

A REGIONAL PROFILE OF
WG-CIFM
THE WORKING GROUP ON COMMUNITY INVOLVEMENT IN FOREST MANAGEMENT

FOREWORD TO THE REGIONAL PROFILE, SERIES

This series of regional assessments was initiated by an international group of individuals concerned about the future of the world's forests. We began meeting during the sessions of the Intergovernmental Panel on Forests.
The World Conservation Union (IUCN) agreed to facilitate our activities and administer financial support which was provided by the Ford Foundation and the United Kingdom's Department for International Development (DFID).

The Working Group currently includes forest administrators, planning officers, forest scientists, environmental activists, and diplomats. Our discussions of the underlying causes of deforestation and promising strategies to bring greater stability to the world's forests revealed many similarities between our regions. Most group members agreed that the expansion of government and private industry control over forests in the past century had increasingly undermined the management role of communities in their nations. In some cases this was reflected in the deterioration of indigenous forms of resource stewardship, in others policies did not allow for localized systems of forest rights and responsibilities to be established. Many participants reported that a growing number of communities in their countries are attempting to gain greater control over their forest resources. Nations in both the South and the North are beginning to address this imbalance by developing policies and programs to re-engage communities in forest management decision-making.

During the meetings of the Working Group we noted that many government forestry agencies are underfunded, their budgets cut over the past decade due to political changes and economic restructuring in both developed and developing countries. While the rapidly shrinking public forest base is under unprecedented pressure from industry as well as from local and urban public forest consumers, many forestry agencies have been faced with severe financial constraints and staff reductions that frustrated their attempts to sustainably manage their national forests. Economic recessions and government downsizing have been catalysts for innovative solutions to forest management problems.

Working side by side with local communities, some forest agencies are forging new partnerships and approaches to forest management. While the subtle pace of this change cannot stem the criticism from conservationists, industry, and local communities not experiencing change, the dialogues and partnerships have sparked a new dynamic animated by citizen's coalitions and regional processes incorporating diverse stakeholder groups. Our group concluded that these parallels warranted a sharing of community forest management experiences between countries in the hope of accelerating the development of more effective strategies to engage forest stakeholders in sustainable forest management.

Throughout the process of the Intergovernmental Panel on Forests, the Working Group sought to introduce language to the draft recommendations that could contribute toward creating new policies that support greater community involvement in forest management. The Working Group convened six times during the meetings of the Intergovernmental Panel on Forests between 1996 and 1998. Over 150 individuals have participated in these sessions. The Working Group was able to effectively influence the final text of the IPF that resulted in some 135 proposals for action approved by governments in June 1997 at the United Nations General Assembly Special Session.

In order to extend our exchanges to colleagues and other interested readers who were unable to participate in the Working Group, we decided to establish a monograph series that characterizes some of the diverse community forest management experiences from each of the world's regions, emphasizing community perspectives. We defined "community" broadly to include small forest-dependent settlements, indigenous peoples, as well as the greater civil society. This broad definition presented the challenge of capturing the inevitable diversity of opinion present in the realm of forest "stakeholders" literally, all those who have ties to or needs that are met through forest environments. Members of the Working Group agreed that the profiles should reflect a range of views of communities, planners, foresters and other stakeholders within each country. The profiles attempt to be both a synthesis and a mosaic of these complex and diverse national and regional realities.

The degree to which community involvement in forest management (CIFM) is recognized by governments and is integrated into state management goals varies widely. Presently, much of the world's forests are used by local communities, whose interactions are mediated through institutions that range from highly traditional to very modern, and whose legal control ranges from nothing to absolute. Because community forest management is often based on local organizations that are frequently unregistered and fall outside formal policies and prescriptions, local forest-dependent inhabitants have been the hidden component of management in the forestry sector. The communities' role may extend from passive engagement to active participation in goal identification, objective setting, controlling implementation, and assessing results. In some areas community involvement and authority may be based on granted legal autonomy or simple isolation. In 1997, the Working Group developed the following chart to reflect the broad spectrum of ways in which communities interface with government management strategies and the varying levels of authority they may hold.
The goal of the regional profile series is to communicate CIFM experiences between regions, targeting diverse audiences including international policy makers and national planners who are responsible for shaping forest management policies and strategies, as well as the forestry practitioners and development specialists who implement them. To familiarize our cross-cultural audience with the national contexts, each regional profile provides a brief summary of the region's forest management history, human ecology, and administrative organizations, followed by a series of CIFM case studies.

Each regional profile is compiled with the collaboration of many individuals and organizations engaged in the countries of the region under review. The contributors include a mix of generalists and in-country specialists who draw on an extensive collection of existing histories, policy reviews, ecological assessments, personal interviews, and case materials. During the assimilation of materials for review, the editor and the contributors participate in national and regional meetings to capture contemporary views and policy trends. Outside reviewers read and comment on a succession of draft manuscripts to better ensure a balanced presentation. Nonetheless, given the controversial nature of the forest policy debate, numerous differences over the interpretation of data or the validity of information are likely to occur. For this reason, the Working Group feels that it is important to act independently of any organization or institution. I hope our readers find these materials useful in seeking new solutions to forest management issues and I take responsibility for any errors or omissions.

— Mark Poffenberger, Series Editor
capture the voices and views of local people, government staff, development workers, researchers, and NGOs, while also providing some historical, ecological, and social context for their interpretation.

It is clear that there are many important components involved in forest management at the policy and field level. What emerged repeatedly during this review was the fundamental question of who should control the natural resources of Southeast Asia? As the population of Southeast Asia has grown, the rural landscape has absorbed millions of people, both indigenous inhabitants as well as migrants. Burgeoning rural communities inevitably compete with internal and external actors for access to natural resources that are part of their production systems. Increased competition for land, water, and forest resources is often an important force driving the need for more clearly defined systems of forest management. The case studies in this report will demonstrate how villagers are attempting to intensify the productivity of existing lands, place tighter use controls on remaining forest lands to protect watersheds, and reach clearer resource use and territorial rights agreements with their neighbors to minimize conflicts.

A major goal of this report is to present the unique perspective and experience of forest-dependent people in the region. Further, I hope to document both the problems and opportunities confronting government and development agencies as they struggle to engage forest dependent people more effectively in management. For several decades the development sector has largely articulated community forestry issues in terms of project activities and technologies including the establishment of village wood lots or support for non-timber forest products collection. For the most part, social forestry initiatives were safely confined to pilot project areas, within a framework of government programs. In recent years, perceptions regarding the role of communities in resource management have begun to change. In some countries, community forestry has begun to emerge as a people's movement, challenging the authority of the state to hold unilateral power over management decision making.

This report provides the reader with a synthesis of information regarding the past, current, and future role of forest communities in sustaining the natural environment in Southeast Asia. The contributors and I share the assumption that the meaningful engagement of the region's rural communities will be a key element in reestablishing sustainable systems of environmental management. Part I highlights issues currently confronting the natural forests and the people who live in them and depend on them for their survival. Part II reviews the history of forest-use across the region, providing a brief description of human-environmental relationships from pre-history up to the present. Part III offers a short description of major forest types in Southeast Asia, noting some of the specific challenges each bio-region faces.

Part IV examines the relationship between government and forest communities, highlighting how laws, policies, and development programs affect them. This section also gives an overview regarding how policies are changing in the region. In Part V, a selection of six case studies illustrates a wide variety of contemporary community forest management practices, as well as the problems faced by local residents as they struggle to sustain forest environments in the face of growing pressure from within and without. In addition to community reports, this section also documents several regional and national strategies that expand the roles local groups can play as forest stewards and custodians. In the final section, Part VI, the report identifies positive roles government, NGOs, development agencies, and the private sector might play in supporting this transition to participatory stewardship of the region's natural forests.

A recurring theme throughout the report is the conflicts over forest control within and among communities as well as with outside actors. It is assumed that meaningful community forest management will require a long-term effort to transfer legal authority downwards to small groups of forest-dependent peoples. After over a century during which forest controls have become increasingly centralized, there is a sense that the pendulum has begun to swing back, with a process of devolution beginning to take place. Yet, as Gilmour and Fisher write in Villagers, Forests, and Foresters, this creates a paradox where government must "use its authority to give away its authority." As this profile will show, the dynamic process of public land reform in the Southeast Asia region is replete with both progress and resistance.

—Mark Poffenberger, Editor

**ACKNOWLEDGEMENTS**

The goal of this regional profile is to bring together a broad range of experiences with community involvement in forest management (CIFM) from six Southeast Asian nations. This required drawing on the oral and written accounts of dozens of individuals in order to reflect the dynamic forestry contexts present in Southeast Asia.
was fortunate to receive extensive help from those individuals listed as contributors, however, far more people gave to the task of preparing this profile and those are mentioned here.

Part I briefly summarizes some of the forces and pressures forest communities in Southeast Asia are currently facing. I am grateful to CIFOR and the Environmental Investigation Agency for tracking and publishing reports concerning trends and events that threaten the region's natural forests with special thanks to Don Gilmour for reviewing this section.

Part II presents a brief history of forest management in each of the six countries. This section draws on the fine scholarship of Peter Bellwood, Peter Dauvergne, Ronald Edgerton, David Feeny, Karl Hutterer, Nancy Peluso, Richard Tucker, and others.

Part III provides a brief discussion of the major forest bio-regions that exist in Southeast Asia. This section is based on the work of T.C Whitmore, Mark Collins, Jeffrey Sayer, and Dillion Ripley. I am grateful to Peter Ashton at the Arnold Arboretum of Harvard University for his review of this section.

In Part IV, national reviews of forest policies and social contexts are based on the contributions of many organizations and people. The Cambodian section draws heavily on the work of Doug Henderson and Kol Vathana. The report on Indonesia is informed through the writing of Suraya Affif and Muayat Ali Muhsi, with additional suggestions and guidance from Jeff Campbell and Martua Sirait. The report on Laos was developed with input from Khamphay Manivong, Manfred Fischer, Carl Mossberg, Marko Katila, Bruce Jeffreys, Peter Jones, and Clive Marsh. The section on evolving community forestry in the Philippines was written by Peter Walpole with special thanks to Tony La Vina at WRI for his review and comments. Karen Lawrence and Anan Kanchanapan authored the national review of CFM in Thailand, with input from Komon Pragtong and Samer Limchoowong. Finally, the section on Vietnam draws heavily on the work of Thomas Sikor, as well as on input from Charles Bailey, Nguyen Huy Phon, and Vo Tri Chung.

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I am especially grateful to Andrew Ingles, IUCN regional coordinator for South and Southeast Asia, who took the time to read through the entire manuscript and provided many valuable comments. I would also like to express my appreciation to Fran Korten, Michael Conroy, and Walt Coward at the Ford Foundation, and to John Hudson and Pippa Bird at the United Kingdom’s Department for International Development (DFID), for supporting the activities of the Working Group on Community Involvement in Forest Management (WG-CIFM), including this second publication in the regional profile series. At the World Conservation Union (IUCN) headquarters, I am grateful to Simon Rietbergen and Ursula Senn for facilitating and administering the Working Group program. Thanks also to Bob Reed and Eric Crystal at the Center for Southeast Asian Studies at the University of California at Berkeley for providing encouragement and logistical support for the review. We are also grateful to the John D. and Catherine T. MacArthur Foundation for supplemental funding for this publication.

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—Mark Poffenberger, Editor

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Damar Forest Gardens, Krui District, Indonesia

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## Summary

### Part VI: Community Forest Management in the Twenty-First Century

**Perspectives on Stakeholders**
- Government
- *International Development Banks and Bi-Lateral Agencies*
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**Summary**

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Southeast Asia is one of the richest regions in the world in terms of its varied human-ecosystems. The diversity of cultural groups, combined with one of the world’s richest genetic pools, has resulted in a multiplicity of forest-use systems. For thousands of years, the upper and lower watersheds of the major mainland rivers as well as the entire island archipelago of Southeast Asia were carpeted with dense rain forest. Tribal communities fished, hunted and gathered in the forest, and practiced long rotation agriculture. Thousands of long rotational swidden systems were developed for a wide variety of lowland rain forests, swamp forests, mountain forests, monsoon forests, and mangrove forests.

Each country possesses hundreds of agro-forestry systems, mixed tree gardens, and natural forest product gathering and hunting strategies. A single forest garden often contains hundreds of plant species, mostly well known and well-used by local populations. Recent studies of indigenous forest management systems show that they often retain 50 to 80 percent of the biodiversity found in neighboring natural forest ecosystems (Note 1). Systems of sustainable use evolved over thousands of years based on traditional knowledge passed from one generation to the next. While indigenous peoples manipulated the natural environment to meet their needs, they did so in a way that allowed much of Southeast Asia’s forest cover to remain intact.

This report explores the roles communities and other forest stakeholders play as forest managers across the Southeast Asia region. Where authority is ultimately vested and how decisions are made regarding forest management goals and operational responsibilities is a political issue in Asian countries. As this report will show, there are forces throughout Southeast Asia that promote devolution downwards towards the community, as well as powers that draw that authority towards the center and upwards. The forest is a contested domain and the nature of this tension is a primary topic. This report focuses on the issue of community control of forestlands both through legal frameworks and in the field.

This section begins with a brief overview of two major paradigms that reflect separate and distinctive approaches to forest stewardship: the state versus community forest management (CFM). There are some areas of overlap, with opportunities for varying degrees of collaboration and participation, yet it is also clear that there are profound differences that necessarily affect any resource management strategy. Over the past three decades, community-based forest management (CBFM) programs have acquired new names like...
participatory forestry, joint forest management (JFM), and village forestry while the scope of the role for rural people has broadened as well. The process of trying to integrate the different agendas of the state, development agencies, and communities has resulted in some progress in merging the forest management goals and strategies. But, it has also blurred fundamental differences that require illumination and high-level policy debate if they are to be resolved. The following list presents a brief summation of some of these important differences: short and long term goals, technologies, control mechanisms, orientation in space and time, and modes of production.

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**STATE FOREST MANAGEMENT**

Most of Southeast Asia's forestland was placed under state control during the nineteenth and twentieth centuries, largely dictated by the European colonial administrations of the era. The process of land nationalization was sequential and multi-faceted, involving the formulation of laws to legitimize the state property regime and the development of bureaucratic institutions created to implement claims of governments. Western concepts of nature preservation, silviculture, and industrial forestry provided a scientific basis for developing management goals and mechanisms for administering newly demarcated public forestlands. Indigenous forest management practices, such as long rotation swidden agriculture, agro-forestry, hunting and gathering regimes, often found little or no recognition in these new systems of land tenure and forest laws as they were based on European concepts of land ownership, reflecting very different modes of production and legal traditions.

Throughout Southeast Asia, a discourse of state forestry was established drawing on constitutions, laws, and other legislation that largely rejected local claims to forest resources. This was based on a growing body of decrees, regulations, codes, and other government declarations that reinforced the *de jure* rights of the state vested through national constitutions and agrarian laws. In many cases, communities continued to be the de facto users and managers of forest, until the state or other entities authorized by the government, usually state forest enterprises or private sector leases, began exploiting the resources. When confrontations between state and local users occurred, the former almost always prevailed, although resistance often continued in the form of guerrilla activities, sabotage, petty theft, and arson.

The globalization of the world economy reinforced state claims to resources while facilitating their exploitation by national and transnational companies. Political leaders found they could control the leasing of large tracts of forest for timber and mineral extraction that provides a wealth of money, power, and influence. With the increasing centralization of forest control, national elite acquired hundreds of thousands, and even millions of hectares of land to log, mine, and establish estate crops. From the 1970s through the mid-'90's, international development organizations and large private banks financed these activities, perceiving these large private sector initiatives to be consistent with prevailing paradigms for economic development. Since 1997, however,
the onset of the Asian economic recession has drawn global attention to the corrupt practices and inequities apparent in the region's economies, including the state forestry sector.

There is growing recognition that corruption in the forestry sector begins at the top, where centralized control is frequently concentrated in the hands of a relatively small group of political and economic elite. This pattern is also reflected at more local levels where provincial, district, or sub-district government officials may establish patronage links with local businessmen. What Dauvergne describes in Indonesia is true of many countries in the region: "the result is rampant illegal logging, timber smuggling, tax and royalty evasion, flagrant violations of logging rules, and avoidance of reforestation duties." (Note 2) The World Bank, the IMF, and other development agencies continue to view these problems as being rooted in the poor implementation of forest policies, rather than questioning the basic viability of state forestry. But, the massive failure of forest policies for half a century or more throughout the region requires that we look beyond the managerial and technical problems facing forestry agencies to explore alternative management paradigms, community forestry being a logical candidate.

COMMUNITY FOREST MANAGEMENT

While autonomous, communal systems of management have existed in Southeast Asia for centuries, state sponsored social and community forestry projects are a recent invention. As Gilmour and Fisher note, "The early approaches to community-based forestry in the 1970s were referred to as "social forestry," and were often limited to hiring local villagers to establish wood lots. (Note 3) Fundamental questions regarding community rights and responsibilities for forest resource management were usually beyond the mandate of state sponsored projects. The Food and Agricultural Organization of the United Nations (FAO) defined CFM very broadly in 1978 as "any situation which intimately involves local people in a forestry activity." (Note 4) But, Gilmour and Fisher have extended this definition to emphasize issues of authority that exist within CBFM. They now define it as: "the control and management of forest resources by the rural people who use them especially for domestic purposes and as an integral part of their farming system." (Note 5) The question of control is arguably the most important and controversial issue surrounding the debate regarding the role of communities in the management of the region's forests. Increasingly, throughout Southeast Asia, community forestry is being recast as a political issue, driven by an emerging peoples' movement.

Even at the end of the twentieth century, indigenous resource use practices have not disappeared, instead many Southeast Asian communities are adapting their resource use systems to changing social and political conditions and market trends. While greater emphasis is being placed on commercial forest products, subsistence goods still retain a significant if not dominant role in local management activities. Although most Southeast Asian governments give little recognition to communal resource management institutions, village elders, clan chiefs, and other traditional community leaders and their members continue to play important roles in guiding the use of farmlands, water sources, pasturelands, and forests. In Laos, for example, 80 percent or more of all forestlands remains under indigenous systems of management. In Indonesia, local communities retain control over substantial tracts of forest often operating alongside commercial enterprises. These indigenous patterns of stewardship of the natural environment exist in the shadows, however, as they are given little or no recognition under the land laws and policies in most Southeast Asian nations.

In this era of development, traditional resource use systems have often been viewed as obsolete, uneconomical, and inefficient. Despite a growing body of scientific research that indicates that many indigenous forestry and agroforestry systems are economically productive, possess an ability to mimic natural environments, and are remarkably compatible with local ecosystems, they receive little support from government or development agencies, either legally or financially. Instead, government planners sign away hundreds of thousands of hectares of natural forests to foreign logging firms, mining concessions, or estate crop operators, while disregarding evidence that local people have effectively acted as resource stewards for generations.

The broad discrepancy in management characteristics between the state and rural forest-dependent communities suggests that it may be important to support community forestry as a separate and distinctive approach to natural forest management. Integrating it as a minor program within the state model as has been attempted in recent decades has failed to empower community forest managers. By highlighting these fundamental differences in management goals and perspective toward the natural environment, perhaps a new paradigm can evolve that can more equitably address the increasing pressures on Southeast Asia's resources.

The following themes provide a brief overview of rapid population growth, land and forest tenure conflicts, industrial logging, estate crops, mining, and fire. These are all topics of major social significance and of special relevance for community forest management. These topics will be briefly discussed in this section and echoed...
through subsequent parts of this report dealing with national forest policies, development agency strategies, and field situations.

**POPULATION GROWTH**

Population growth and increasing per capita consumption of many forest products in developed countries has led to expanding pressure on Asia's forests. On the island of Java, for example, the population has increased from 3 to 100 million over the past two centuries. Indonesia now has over 200 million people, with projections of 350 million for the year 2020. (Note 6) Asia's population is estimated to reach 4.3 billion by 2025. Asia currently has less forest per capita than any region on earth—under 0.2 hectares per person. (Note 7)

In Southeast Asia, there are an estimated 80 to 100 million people who reside on land classified as public forest, and these numbers will likely double over the next 20 to 30 years. Moreover, there are an additional 200 million rural residents who are to varying degrees dependent on forest products for their survival. Finally, 150 million urban dwellers rely on upper watershed forests to provide critical environmental services.

The linkages between population growth and forest loss, however, are not straightforward. It is easy to blame population expansion for natural resource degradation, rather than focusing on other causal factors such as policy failure, corruption, and the uncontrolled activities of the private sector. As Daniel Bromley has noted: "Blaming population growth allows inept or corrupt governments to shift the blame for either their behavior or their inaction, as the case may be, to 'promiscuous' peasants." (Note 8) In fact, there is growing evidence that increased use of local resources can encourage communities to implement tighter controls and more sustainable systems of management. (Note 9) Nonetheless, the long-term impact of expanding rural and urban populations will place increasing pressure on the natural resource base. Growing populations impact the forests by increasing demands for more agricultural land, fuelwood, and other forest products. Other factors that impact forest loss are: 1) the breakdown of local systems of management, 2) market and policy failures, 3) rapid commercialization of natural resources, 4) resource tenure structures that encourage short-term exploitation and 5) institutional weaknesses characterized by corruption practices. (Note 10)

**LAND AND FOREST TENURE**

Tenure is sometimes referred to as a “bundle of rights,” recognized either by law or custom. Tenure security is the degree to which an individual or group feels its relationship to a place or the resources that support them are in jeopardy. Tenure systems, especially customary rules and rights found in rural Southeast Asia, are highly diverse. They cover land, trees, and water, as well as specific products like birds' nests, gums and resins, fruit, honey, specialty woods, and hundreds of other items. Individual and family rights are often nested within an overall framework of community administration. Traditional tenure systems tend to be flexible, so that rights can flow outward to users, expand and contract based on demand, and be adjusted in response to good or poor practice. Individuals and families are accountable to the community, the community in turn to its members, and, finally, a balanced relationship with neighboring communities must be maintained. Tenure conflicts are to be avoided, first through continuing efforts of members to avoid offending others, and then through mediation at increasing levels of authority.

Traditional tenure systems have been the primary mechanism for allocating natural forest resource use among local populations for thousands of years. The Hindu, Buddhist and Islamic empires of Southeast Asia prior to the colonial period had limited control beyond the lowland agricultural plains. Up to the end of World War II, though colonial governments declared most of the region's forests to be state domain, effective administration of Southeast Asia's 500 million hectares of forest was limited to a relatively small number of timber production areas with road access. Only during the past 50 years have newly independent nations in Southeast Asia begun taking more comprehensive management control of upland forests by setting up new structures of local governance and imposing national land laws, while rarely recognizing indigenous tenure practices. Instead, governments have generally assumed public forestlands are freely available for leasing to state corporations, private enterprises, or for management by new local government administrators.

The absence of legal rights in much of the region's natural forestlands has left local communities highly vulnerable to the interests of outside actors, be they governments, corporations, or migrant settlers. The failure by most of the governments of Southeast Asia to recognize the territorial rights of indigenous and other traditional peoples is increasingly acknowledged to be a fundamental cause of deforestation (Note 11). Insecurity of tenure can generate perverse incentives for sustainable management—for local populations as
well as private companies. Although much of the land in these countries was nationalized over the past few hundred years, in recent decades the encroachment of external forces has intensified, destabilizing and eroding local resource management systems. What Steven Lawry observes of sub-Saharan Africa is also true of many parts of Southeast Asia: "While states have usurped the last vestiges of local control through legal reform, they have been unable to put in place an effective alternative system for managing collective resources" (Note 12). Still, in many of the more remote forest areas and watersheds of mainland and insular Southeast Asia, customary tenure practices continue to guide communal resource management, despite the absence of formal recognition. The question is whether they will continue to be eroded or whether an appropriate marriage of supportive policies and effective programs will re-energize local systems of community resource stewardship.

Since the 1960s, for example, the Indonesian government has transferred rights to approximately one-third of the national land area to a small group of people with powerful political connections. While much of the 65 million hectares was initially designated for long rotational timber harvesting, the selective-felling system failed due to overlogging, fires, and other disturbances. Wealthy families have attempted to hang on to their lease-holds by clearfelling them for pulp, converting them to plantation crops, or exploiting their mineral resources. Millions of local residents lost their ancestral lands in the process and there has been little recourse through the judicial system.

Southeast Asian countries are challenged by the great differences between modern government land laws and customary tenure traditions. Even after laws are enacted that can link modern and traditional forest tenure systems, the process of delineating tenure authorities through negotiations and mapping is an immense task. The bureaucratic capacity, procedures, and skills to implement national public land reform is also woefully limited throughout the region. Further, much forestland has already been leased to outside companies or placed under the administration of state corporations, and pressure to exploit forestlands for foreign exchange has grown with the economic recession of the past two years. Bringing land security to upland forest regions will require a careful crafting of enabling policies, a strong political will, and the capacity to implement them.

INDUSTRIAL LOGGING

No force has transformed the natural forests of Southeast Asia so rapidly as industrial logging. Commercial timber extraction has occurred in the region for centuries, but only in the last 100 years have expanding international markets, together with new felling, extraction, and transportation technologies increased the rate of logging to its current high levels. Today, the international timber trade is valued at $100 billion a year (Note 13). For many Southeast Asian nations, timber is a resource that can be sold on international markets to generate foreign exchange. Nations with large debts to development banks as well as private commercial lending institutions require foreign currencies to service their loans. With the onset of the Asian economic recession in 1997, alternative sources of foreign exchange from the manufacturing sector declined sharply and natural resource extraction is seen as a primary means of meeting the need for hard currency. The International Monetary Fund and other global financial bodies have urged nations not to default on their debts and risk jeopardizing their credit status. As a result, the urgency to generate dollars through timber sales has increased, despite a wood glut in the global market and historically low prices from logs and plywood.

Logging is very difficult for governments to regulate and timber revenues are hard to capture. According to a recent study by the World Wildlife Fund: "Virtually all logging for export currently taking place in India, Laos, Cambodia, Thailand and the Philippines is illegal ... It is estimated that at least a third of Malaysian logging may be illegal and as much as 95 percent in Indonesia is not wholly legal." (Note 14) While timber operations are not solely the work of transnational corporations (TNCs), these companies have the advantage of a foreign base and high mobility, often taking advantage of political instability, economic crises, and difficult-to-monitor operations in remote areas. TNCs are often able to circumvent regulations and barriers that protect the environment and local forest communities. Transnational firms have experienced a rapid increase in their capacity to roam the world in search of new forests to exploit. TNCs have been charged with a wide range of illegal practices, including overextraction, logging in protected areas, logging outside concession areas and in the domains of indigenous peoples, as well as such fraudulent actions as bribery, illegal exports, forgery, the underreporting of harvests, and transfer pricing. (Note 15)

Samling Corporation, a Malaysian timber giant, landed logging rights to natural forests covering 800,000 hectares in Cambodia in 1994. The four-page agreement gave Samling control over 4.5 percent of the nation's land area, with an eight-year tax holiday, an automatic option to renew for 30 years, and a requirement of spending only $100,000 for reseeding. Cambodia's National Assembly approved this land grant without debate. (Note 16) In Ratanakiri province, Macro-Panin, an Indonesian consortium, negotiated a logging concession for 1.5 million hectares, the equivalent of 20 percent of the nation's remaining forests and the
ancestral domain of a number of ethnic minority communities. (Note 17) By the end of 1998, the Cambodian government had allocated logging rights for approximately 40 percent of the country's territory to foreign firms. Estimates indicate that Samling is harvesting 50 cubic meters of timber per hectare, five times what is considered a sustainable yield. Ministry of Agriculture officials report being turned away by concessionaires when they attempt to monitor logging activities (Note 18). According to one report, "People living within the boundaries of its concession have been prevented from cutting trees for fuel, saw-mills for local use have been closed down, and the company has brought in foreign guards to protect its interests." (Note 19)

A logging truck outside Phnom Penh is one of many operators that transport timber in Cambodia (photo: Poffenberger)

A joint venture coal company operates this strip mine on logged-over lowland rain forests 80 kilometers from Samarinda, East Kalimantan. (photo: Poffenberger)

A recent financial analysis of the timber trade indicates that transnational logging companies take most of their revenues abroad, with as little as 9 percent remaining in the producing country. When logs are processed into sawn timber and other wood products, 65 to 90 percent of earnings by TNCs still leave the country. (Note 20) An economic valuation of old growth logging in the Philippines found that the return on harvest was a negative $130 to $1,175 per hectare, after calculating replanting costs and off-site damages. (Note 21) Despite the costs to local communities and national governments, TNCs now control an estimated 80 to 90 percent of the trade in wood, pulp, and paper products, with a market value of $110 billion in 1995. (Note 22) Only 350 companies control 40 percent of the world trade, many with sales volumes that are higher than the entire GDP of many countries. The Environmental Investigation Agency concluded that:

_in the absence of restrictive trade barriers and without adequate global institutions to regulate their activities, TNCs now enjoy unprecedented freedom to roam the globe in their quest for profits. Dwarfed by the economic might of these super-corporations, and eager for revenue, many countries are seemingly powerless to regulate the management of their precious natural resources._ (Note 23)

As this brief review suggests, industrial logging operations threaten forest-dependent communities, as well as national societies. Remote forest communities are poorly positioned to resist timber extraction by private companies sanctioned by national governments. The actions of TNCs are further supported by some developed countries that provide a market for their timber products. Once logging operations are completed,
access roads built for timber extraction often expose forest communities to an influx of migrant families in search of agricultural land, placing further pressure on forest and land resources. The impact of TNCs and illegal logging operations on community forest management efforts will be examined in case studies from Cambodia and the Philippines in Part V.

MINING

Mining poses a growing threat to natural forests and rural communities throughout Southeast Asia. A recent IUCN report found that the expansion of mining is being driven by trade liberalization, technological change, debt, corruption, and influence from large corporations. (Note 24) In recent years, the Philippines and other countries in the region have attempted to attract foreign investment in mining. The 1995 Philippine mining code extends full ownership rights to foreign firms, eliminates taxes for ten years, and allows for total repatriation of profits, leaving one-quarter of the land area available for lease.

Environmental disturbance from mining operations has immense impact on site as well as downstream. Each ton of silver and gold ore extracted from open pits generates between 1 and 3 million tons of waste, contaminated with chemicals like cyanide, sulfuric acid, and heavy metal toxins that often enter hydrological systems. In the province of Irian Jaya in Indonesia, the world's largest gold mine owned by Freeport McMoran (USA) and Rio Tinto (UK and Australia) discharges some 110,000 tons of toxic waste daily into the Alikwa River. The Amungme tribal council has sued Freeport, which holds a mining license for 2.6 million hectares, after they and the neighboring Ekari and Komoro tribes were displaced from their ancestral lands. The tribes rejected the company's compensation offer as inadequate. (Note 25) Tribal actions to protect their lands have resulted in conflict with the Indonesian military, which has been called in to suppress local communities.

The economic recession has clearly placed great pressure on the Indonesian government to lease mining rights on public forestlands. At present, 269 contracts have been approved for gold, nickel, diamonds and coal, 50 contracts being awarded in February 1998 alone, about six months after the recession began (Note 26). Concerned by the growth of transnational mining operations, an international meeting of indigenous peoples held in 1996 declared: "no activities must take place on Indigenous Peoples' territories without their full and informed consent through their representative institutions, including the power of veto." (Note 27) While indigenous people's protest with growing urgency, large corporations and the international monetary community take advantage of the greater trend towards global free trade and increased foreign investment, breaking down national regulatory barriers and leaving upland forests and the communities that inhabit them increasingly vulnerable.

FIRE

Forest fires in Southeast Asia have received international attention in recent years. Millions of hectares have burned in Borneo, the Philippines, Sumatra, and Mainland Southeast Asia. In 1982-83, fires burned an estimated 3 million hectares on the island of Borneo. In 1997, catastrophic blazes produced smoke that affected southern Malaysia, Singapore, and much of western Indonesia, disrupting travel, driving away tourists, and undermining commerce. Air pollution from these fires was estimated to have affected 80 million people with a financial loss of over $1 billion dollars (Note 28). The primary culprits were government-linked companies engaged in forest clearing in Sumatra and Kalimantan to prepare land for the establishment of palm oil and rubber plantations (Note 29). Loss of commercial timber is another result of the fires. The commercial plywood industry faces a shortfall of 14.5 million cubic meters of timber, or 30 percent of its demand, in part due to fires in production forest areas. Some analysts predict that fire-induced shortages will drive logging companies to overlog existing concessions and exploit protected forest areas (Note 30).

Fire has always been an important element in managing the natural forest environments of Southeast Asia, especially in the drier ecosystems. Most long-rotation swidden farming systems rely on fire to clear fields, recycle nutrients, and manage pests. Most farmers, with the oversight of community institutions, carefully control such burns. In these contexts, fire has been used for generations as a means of managing the landscape in culturally prescribed ways. Unfortunately, documentation of indigenous systems of fire use and management is limited, vague, and judgmental. Some scientists are urging that a greater effort be made to understand the indigenous use of fire in collaboration with local communities (Note 31).

The incidence and extent of fire in the forests of Southeast Asia appears to have increased dramatically in recent decades with an expanding impact on forest ecosystems. There is evidence that forest fires in logged-
over tropical rain forests result in a much higher mortality rate among the towering canopy trees because of the hotter temperatures generated by fuel build-up from the logging slash. The concentration of fire in logged sites and in areas being converted to commercial plantation crops raises serious questions regarding the sustainability of natural forests when they fall under the control of large, private sector interests. Analysis of burn patterns in Kalimantan during the fires of 1983, 1997 and 1998 indicate that the extensive fires were largely confined to areas being cleared for industrial tree crops, while areas under community control experienced much less burning.

SUMMARY

Over the past several centuries the Southeast Asia forest resource base has been reduced by half, a loss of some 350 million hectares of some of the world's richest tropical rainforest. Some scientists estimate the loss of original habitat as high as 80 percent in Vietnam and the Philippines, and between 50 to 70 percent in Indonesia, Laos, Thailand, and Cambodia. (Note 32) The remaining half is under growing pressure and much of it is being disturbed. It is clear that commercial resource exploitation through logging and mining, as well as estate crop establishment has greatly contributed to the degradation of vast areas, both in terms of their ecological and productive functions. At the same time, over the past century, the role of communities in managing natural forests has been curtailed legally and administratively. A serious political commitment will be required from national leaders and international organizations if the community forest management paradigm to be meaningful empowered through legislative and operational actions throughout the region.

Notes


4 This is from a published report by FAO, "Forestry for Local Community Development," FAO Forestry paper No. 7. (Rome: Food and Agricultural Organization of the United Nations, 1978).


15 Environmental Investigation Agency, p.7

16 Ibid. p. 29.

17 Ibid. p. 3.

18 Personal Communication from MOA staff, November 1999.

19 Environmental Investigation Agency, p. 29.


23 Ibid. p. 3.


28 Cribb, p. 16.

29 Ibid. p. 16.


31 Jackson and Moore, 1998, p. 10

This section reviews the history of human uses of Southeast Asia's forests. For centuries, just as human societies have shaped the natural environments, so too have forest ecosystems influenced the development of civilization. In exploring the roles communities can play in forest management in the future, it is useful to reflect how they have been engaged as stewards of these natural resources in the past. By better understanding the forest management experiences of the past, proponents of greater community engagement in forestry may see ways to re-establish or adapt these management forms to respond to future challenges.

PREHISTORIC

Archaeological evidence indicates that human habitation of Southeast Asia dates back one million years or more. More abundant findings from 10,000 to 40,000 years ago tell us of cave-dwelling communities that hunted a broad range of animals in the tropical forests along the coast of Vietnam, the Malay Peninsula, and Sumatra (Note 1). In northern Thailand, at a site known as the Spirit Cave, anthropologists have found a variety of tree crop seeds including candlenut, canarium nut, butternut, betel nut, terminalia nut, chestnut, and mango, as well as seeds, bushes, and vegetables. Scientists speculate that inhabitants of the area may have cultivated small gardens in the forest between 6,000 and 12,000 years ago.

According to Karl L. Hutterer, "the natural vegetation cover of Southeast Asia has been affected by a long history of often intensive human interference predating colonial influences by thousands of years." (Note 2) At the same time, he concludes that forest-foraging communities were too small to have had a great impact on forest ecosystems. Population densities throughout the region remained quite low until the beginning of the current millennium, with small isolated bands roaming through the dense forests that cover most of the region. Survival strategies, including hunting practices and foraging methods, varied widely, depending on local environments. "In all," says Hutterer, "the animal bones reflect a hunting pattern that exploits a very broad range of animals found in the rain forest and along its fringes, a pattern that is shared by most contemporary hunting societies in Southeast Asia." (Note 3)
Six thousand years ago, most forest-dwelling peoples of peninsular and insular Southeast Asia subsisted through nomadic hunting and gathering, semi-sedentary fishing and gathering, or semi-sedentary cultivation of wild plant species such as yams, bananas, and coconuts. The presence of words like "yam," "taro "banana," and "coconut" in the Proto-Austronesian vocabulary indicates that these cultigens were very important in the lives of people in insular Southeast Asia over 5,000 years ago (Note 4). Small settlements would create openings in the forest to establish swidden fields. Forest clearings and enriched soils around settlements provided an environment for light-loving plants that allowed humans to identify useful species. Indigenous forest trees like durian, breadfruit, banana, and coconut were identified in the forest and domesticated near houses and in swidden fields.

Evidence from Thailand indicates that rice and other cereal crops were cultivated 5,000 years ago, reflecting an intensification of agriculture. Communities that developed cereal production systems became less dependent on the forest. Since agricultural land for cereal production took time to develop, and as cereal could be stored for long periods of time, a migratory existence was replaced by sedentary life. Some anthropologists note that, "populations engaging in permanent field agriculture have essentially 'locked themselves out of the forest' conceptually (Note 5). Among such societies the forest became fearful and dangerous, as reflected in some cultural mythologies, while forest-dependent communities continued to relate to it as a source of livelihood and protection. Even today, forest dwelling communities like the Semang of the Malay Peninsula seek out the forest because it is "cool" and therefore "healthy," while neighboring Melayu and Temair people regard it as disease-ridden and "too cold". (Note 6)

EARLY KINGDOMS (500-1500)

The role of the state in controlling land resources in Southeast Asia took shape during the first millennium CE with the expansion of sedentary farming communities in lowland areas. In the first centuries of the Common Era, Chinese and Vietnamese rulers began establishing administrative systems in the Mekong Delta in what is now the southern part of Vietnam. They imposed systems of territorial control through land taxes, tributes, and corvée labor (labor provided to the state in lieu of taxes). Since low population densities were a primary constraint on production, it was the control of people rather than land that was the key to economic and political power. As a result, early kingdoms typically attempted to expand their territories into agricultural areas with larger populations. Forest communities in the upland areas and more remote interior regions were rarely subject to prolonged campaigns and generally fell outside the administration of the royal court.

Although inscriptions from the early kingdoms indicate that vast areas of forests were under the control of ancient rulers, they may have been written simply to enhance the prestige of the kings, as there is little evidence to suggest that they ever really controlled the land they claimed. According to Hutterer, "the principal means of demonstrating economic wealth and political influence of leaders were the ostentatious display of expensive foreign trade goods and the espousal of foreign religious ideologies." (Note 7) The monumental remains of Angkor Wat, Pagan, and Borobudur bear witness to the massive human and material investment used to aggrandize the ruler in the eyes of god, the court, and local farming communities. Alternatively, rulers invested in irrigation and drainage projects that increased the area of productive agricultural land. By contrast, we have no reason to believe that similar investments were made in raising large armies to gain control over the people of the forest or their land.

Even in lowland areas, most farming communities were probably relatively autonomous; as distance from the royal court increased, central authority weakened. In the case of the Javanese kingdom of Mahajapahit, one historian notes: “One can easily envisage the situation in which the entire (state) pyramid disappears, but the village continues to function. This was actually the case with large parts of Southeast Asia, where there simply did not exist any effective central authority (Note 8).

The early kingdoms of Southeast Asia were influential in formulating the concept of state domain and establishing administrative systems in areas under their limited control. They also supported private ownership and the sale of agricultural land. From the beginning of the first millennium CE, there is documentation that forest products made up the bulk of trade goods and were a key element in the economics of the early kingdoms. Roman coins, as well as Indian artifacts, have been found near the coastal village of Oc-Eo in southern Vietnam at what may have been the site of the ancient kingdom of Funan. These finds date to the second and third centuries CE and were likely used in part for trade in forest products like wild spices such as cardamom, nut- meg, and clove, and other goods like lacquer, aromatic woods, hides, rhinoceros horn, and ivory. The high-value, low-bulk forest products were collected or caught by the inhabitants of the forest, who received coins and goods in return. (Note 9)
By the first century CE, millions of pieces of ceramics were being shipped to trading ports in insular Southeast Asia in exchange for rain forest products. Since exported goods were largely derived from upland forest areas beyond the administrative control of the royal courts, coastal people's and trading kingdoms had to establish exchange relationships with the forest villages in the interior. Contact between these societies was common, although intermediary traders often facilitated exchanges. Nonetheless, the forest peoples consciously maintained their isolation and retained their distinctive identities, keeping their animistic belief systems while lowlanders adopted Buddhism, Islam, Christianity and other major religions entering the region.

However, hunting and gathering and swidden agricultural communities continued to manage their resources independently in the upland and interior forests removed from the influence of the royal court. Until recently, communal systems of tenure were common, especially for less intensively managed resources like forests, lakes, and streams. The community administered forestlands used for long-rotation swidden farming. Farmers were given temporary use-rights extending through the agricultural rotation. Many forest-dwelling cultures in Southeast Asia viewed their lands as resources held in trust for future generations and as legacies of their ancestors. The lands were considered inalienable, and homelands were to be held in perpetuity. This custodial role of forest tribes is reflected in the words of a tribal elder from Irian Jaya: "The ancestors made these goods (the land) at the beginning of time... and their descendants must be handed these goods in unimpaired condition in the future." (Note 10)

THE COLONIAL ERA (1500-1950)

Southeast Asia's colonial period began in the early 16th century with the arrival of Spanish and Portuguese explorers, followed by the Dutch, the English and the French. The Spanish were the first to attempt to establish territorial control when Magellan landed on the island of Luzon in the northern Philippines in 1521 and claimed the island chain for the Spanish crown. Unlike the other great European colonial powers exploring Southeast Asia, during the seventeenth and eighteenth centuries who were more concerned with trade and the establishment of secure market access, rather than political dominance, the Spanish were interested in territorial control from the beginning. It was not until the early nineteenth century that we see other colonial powers struggling to take physical and administrative control of the Asian states.

The sixteenth and seventeenth century Europeans visiting Southeast Asia were in search of valuable trade commodities that were both light in weight and able to withstand long sea voyages. Spices, gums, resins, and aromatic woods fetched high prices in Europe, as they had in China and Rome for over a thousand years. European colonists initially relied on pre-existing collection and marketing systems. For their forest products European traders paid in gold and silver as well as in cloth, matches, metal tools, mirrors, and other goods, while Chinese traders used tahil (gold), gongs, and dragon jars. The depleted forests of Europe led colonial
powers to increasingly depend on Asia for materials for ship repair and construction. The first forests set aside by Europeans were designated as sources of timber for boat building. By 1677, the Dutch were already negotiating contracts with Javanese rulers to secure access to the rich teak forests of the northern coast. (Note 11)

While forest reserves were established to protect shipbuilding industries as early as the seventeenth century, by the nineteenth century commercial timber extraction was widespread. Burma and Thailand were being heavily logged for teak, and much of the lowland Philippines was intensely harvested from the 1850s on. In response to the uncontrolled cutting, the Spanish colonial government established the first Philippine forestry bureau in 1863. By 1870, the island of Cebu was so badly deforested and eroded that the bureau banned logging. However, this resulted in the emergence of a black market and in timber smuggling that the agency could not control.

In Indonesia, the Dutch colonial administrators brought German foresters to Java in 1849 to establish a modern system of forest management and, in 1860, the governor-general formed a committee to formulate forest laws for Java and Madura. (Note 12) In Thailand, modern forestry began in 1896 with the creation of the Royal Forest Department (RFD). Although Thailand successfully maintained its independence through the colonial period, King Chulalongkorn was concerned that European traders were depleting the country's teak forests. British timber merchants operated freely throughout Thailand and Burma during the second half of the nineteenth century, bribing government officials to gain control of concessions that were virtually unregulated. Much of the southern portions of Burma and Thailand were heavily logged during this period. In response, the King of Thailand hired H. Slade, a British forester who had been based in colonial India, to train Thai staff and establish a forestry department. Some Thai also studied at the Indian forestry school at Dehra Dun (Note 13). The act of establishing a specialized agency to take operational control over the national forests in Thailand was seen as an important step in unifying the country. A late nineteenth century observer noted:

In organizing the Department, Slade naturally met with a good deal of opposition from the local northern chiefs on whose preserves he had naturally to encroach ... after a hard fight, he won his battle, and this victory weakened the position of the chiefs, who never regained their former prestige. (Note 14)

Throughout the twentieth century, the countries of Southeast Asia continued to expand their technical forestry agencies and, in Thailand these agencies enhanced the power of the central government at the cost of local territorial administrators. By 1957, the RFD possessed a professional staff of 1,885 people and was responsible for over 50 percent of the country's land area.

Yet, while governments succeeded in establishing forestry agencies and gained some control over forests in coastal areas and lowland plains, much of upland Southeast Asia and the interior of the Indonesian archipelago remained outside any effective government administration prior to World War II. Recognizing the vast forest area and limited staff capacity within the agency, one Dutch colonial forester noted in 1937 that the "best solution is joint management by the forest service and the communities." (Note 15) Indigenous land laws provided the only functional mechanism controlling land access at the community level. According to Colin MacAndrews, "from colonial times to 1960, it is estimated that less than 5 percent of all land in Indonesia was titled under the Western titling system, leaving more than 95 percent of the land in the country untitled yet recognized under adat (customary law) ownership and control." (Note 16) From the 1960s on, however, the political and economic influence of Southeast Asian governments began to reach farther into the region's remote forest areas, placing more strain on forest communities.


After World War II, Southeast Asia's newly independent states largely retained the forest management policies of their former colonial government's, officially designating forestlands as state domain. Ancestral domain claims received little recognition under the new constitutions. Emphasis was placed on the rapid development of forestry departments and other technical agencies to function as wards of the public forest estate. The new nations of the region were eager to generate revenues from their natural resource base to develop their emerging industrial sectors, finance government, and stimulate trade. At the same time, industrial nations targeted the rich forests of Asia for exploitation.

The two most striking features affecting relationships between humans and natural forests during the modern era in Southeast Asia has been first, the implementation of greater government control over forest resources and, secondly, the expansion of logging throughout the region. Both trends undermined the role of forest-dependent peoples as resource managers. Led by Japan, but with strong participation from Korea and Taiwan, the expansion of East Asian economics in the 50 years since the end of World War II created strong regional
markets for Southeast Asian timber. Japan imported over one-half of the whole logs exported during the timber booms in the Philippines (1964-73), Sabah (1972-87), Indonesia (1970-1980), and Sarawak (1993-95). Rapid, unsustainable rates of logging, driven by expanding market demand, resulted in the depletion of timber stocks in one Southeast Asian country after another. As logs became scarce in the Philippines, traders moved into Sabah and Indonesia. When Indonesia banned whole log exports in 1980, followed by a ban in Sabah in 1993, Japanese traders turned to Sarawak, Papua New Guinea and Cambodia as sources of whole timber. The economies of East Asia have also shifted increasingly to plywood imports. From 1990 to 1995, Japan imported 20 million cubic meters of tropical plywood, largely from Indonesia, and over three times more than China, the world's second largest importer. (Note 17)

Peter Dauvergne, in his study of the politics of timber in Southeast Asia, argues that concession operators were wary of political upheavals that threatened their tenure rights. As a consequence, they had little incentive to invest in long-term sustainable logging (Note 18). In many countries, powerful patron-client relationships developed, allowing state forestry agencies to be captured by vested interests, "perverting policies and debilitating state capacity to enforce regulations. (Note 19) Efforts to shift the timber industry from whole log exports to plywood and pulp and paper manufacturing had a perverse impact on natural forests. Governments pressured companies to replant and establish large timber plantations rather than regenerate natural forests.

The post-World War II era also dramatically redefined the political relationships between government, forest-dependent communities, and other cultural groups within the Southeast Asian region. Nationalism transformed the diverse societies of the Asian colonial states into new independent countries. According to Toby Alice Volkman, ethnicity, as well as "class, religion, gender, and access to political and economic elite and international power structures have shaped the lines of cleavage and struggles of local peoples of Southeast Asia." (Note 20) In explaining the diverse mix of ethnicity and politics, Ben Anderson notes that "minorities came into existence in tandem with majorities and, in Southeast Asia, very recently." (Note 21)

At present, Southeast Asia is estimated to have 30-plus ethnic groups with over 1 million people. Most nations have one or more dominant cultures that play major roles in defining national ideology, policies, and development priorities. Typically, the dominant cultures, be they Javanese, Malay, Thai, or Khin, are lowland peoples, originally wet rice farmers who are increasingly moving into urban environments as well as into upland watersheds. By contrast, there are between 150 and 200 groups with 50,000 to 1 million people and some 800 to 1,200 small groups with populations of less than 50,000 (see Box 1). (Note 22) Smaller groups tend to be upland dwellers, forest-dependent peoples, or coastal dwellers (see Figure 2). While the rights and traditions of minority peoples are recognized under the constitutions of most nations, these groups are often viewed as backward and primitive by the dominant culture and even by the government.

<table>
<thead>
<tr>
<th>Box 1</th>
<th>Ethno-Linguistic Groups in Southeast Asia by Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>Small</td>
</tr>
<tr>
<td>Cambodia</td>
<td>14</td>
</tr>
<tr>
<td>Indonesia</td>
<td>538</td>
</tr>
<tr>
<td>Laos</td>
<td>61</td>
</tr>
<tr>
<td>Philippines</td>
<td>107</td>
</tr>
<tr>
<td>Thailand</td>
<td>45</td>
</tr>
<tr>
<td>Vietnam</td>
<td>59</td>
</tr>
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Minority groups often have only minimal political representation. National land laws, often statutes carried-over from colonial days, fail to recognize communal tenure or ancestral domain claims, and as a consequence minorities are simultaneously losing control over their resources and becoming culturally disempowered. Early national land tenure legislation in Indonesia, Malaysia, and the Philippines deviated little from the laws and statutes that were in effect during the colonial administration. The laws generally recognized the private land rights of sedentary farmers, typically members of the lowland majority culture. In most nations, however, tenure rights were not extended to minority peoples who practiced long-rotational agriculture within natural forest environments. As recently as 1985, the Indonesian Ministry of Forestry clarified the situation by stating that "the activities of shifting cultivators only degrade forestlands, destroy forest timber, and interrupt the activities of concessionaires." (Note 23) Most of the region's land laws mandate that unless land is documented through
title or lease agreement, it is considered public domain, regardless of how long it has been cultivated or occupied.

As a consequence, in the Philippines in the mid-1980s for example, an estimated 15 to 18 million upland residents, many from ethnic minority groups, were considered illegal squatters. Some ethnic minorities in Thailand were even denied citizenship. Most Southeast Asian countries began developing programs in the 1960s to resettle forest-dependent ethnic minorities in government-administered villages and to wean them away from the practice of swidden agriculture. During the 1970s and ’80s, with hundreds of millions of dollars in financing from bilateral and multilateral development agencies, resettlement programs were instituted to accelerate the assimilation of ethnic minorities into the mainstream of society. By removing local forest residents, it also allowed state and private corporations to move into new forest areas to utilize timber concessions, establish estate crop plantations, or begin mining on lands leased from the government.

The experience with resettlement and sedentarization programs in Vietnam, the Philippines, Indonesia, Malaysia, and Thailand is disturbing. Ethnic minorities frequently had problems adjusting to new physical and social contexts designed for them by project staff they were unfamiliar with new farming systems, they often encountered serious environmental and market constraints, and, in many cases they failed to ensure economic support for resettled families. Many left these camps and returned to their old villages.

Since the late 1970s, forest-dependent communities have received increasing attention from national governments and donor agencies. The World Bank and other development agencies began supporting social forestry programs in the 1970s under poverty alleviation initiatives and in response to fuelwood shortages. Approximately one-half of the $1.2 billion lent to the Asian forestry sector from 1979 to 1990 was directed towards social forestry (Note 24). This however, led to financing the establishment of woodlots with fast growing plantation species and did not address some of the underlying causes of deforestation, such as tenure insecurity.

Throughout the region, local forest communities have come into conflict with companies that have gained resource extraction leases from governments for areas that have been held under communal use and management for generations. In contesting these leases, forest-dependent communities have few resources with which to pursue a judicial hearing and often little legal standing to file a complaint. Over the past decade, however, public forest policies have begun to change. In the 1980s, the Philippines began creating legal mechanisms to recognize the resource rights of upland families, forest-dependent communities, and indigenous cultural groups. In 1990, the Philippines Government began mapping and certifying ancestral domain claims (CADC). The Government of Lao PDR is also recognizing customary forest rights under the recently enacted Village Forestry Law. In other Southeast Asian countries, community forest management policies are still under discussion. In Part IV, the state of community forest policy development for most of the Southeast Asian countries will be discussed.

Notes


3 Hutterer, 1988, p. 65.

4 Peter Bellwood, Man’s Conquest of the Pacific (New York: Oxford University Press, 1979) pp. 135-140.

5 Hutterer, 1985, p. 64.


7 Karl L. Hutterer "Prehistoric Trade and the Evolution of Philippine Societies: A Reconsideration," in Hutterer,


12 Peluso, pp. 34-35.

13 Poffenberger, p. 17-18.


This section briefly summarizes the bio-physical characteristics of five important forest bio-regions in Southeast Asia: lowland evergreen rain forests, swamp forests, mangrove forests, monsoon forests, and montane forests (see Figure 3). Due to their natural features, each major forest type plays a unique role in the region as a distinctive habitat for biodiversity, in the way it interacts with climatic and hydrological patterns, and in providing resources for human societies. In each forest environment described below community forestry exists and is evolving in distinctive ways, with these different physical contexts presenting specialized needs and opportunities for local stewards.

The forests of Southeast Asia are largely located in tropical biomes. The dominant environmental characteristic of the tropics is the consistently high temperature throughout the year that shapes the tropical climate and ultimately the structure of biotic communities. Next to heat, precipitation is a critical element, often heavy and variable. As one moves away from the equator, annual precipitation declines and there is greater variation depending on the season. According to Hutterer: "As dry seasons become longer in the outer tropics, one eventually encounters climates with year-long droughts. This situation is reflected in a coarse subdivision of tropical nature into 'humid,' 'seasonal,' and 'arid' tropical environments" (Note 1) These climatic variations are reflected in tropical forest environments and the ways in which human communities interact with these different ecosystems. The types of knowledge and technologies that have been developed over the centuries to manipulate forests are in response to the specific features of each natural environment. It is therefore important to examine the particular physical context to which communities relate.

Positioned between the Pacific and the Indian Ocean, approximately one-half of the land area of Southeast Asia is composed of island arcs. As a consequence, the region's climate and flora are shaped not only by its position near the equator, but by the movement of monsoonal air exchanges between the Pacific and the Asian mainland. As a result of this climatic pattern, the Malay Peninsula, much of Sumatra, Borneo, western Java, the Celebes and eastern Philippines possess a humid climate, with extended dry seasons found in eastern Indonesia, the western Philippines, and northern parts of mainland Southeast Asia.
The equatorial flora of Southeast Asia is one of the richest in the world. A single 50-hectare plot of lowland rain forest in Pasob Malaysia possesses 830 species of plants over 10 mm in diameter; over 1200 species were identified in a similar sample area in Sarawak (Note 2). Of the 250,000 flowering plants identified worldwide, 15 percent occur on the Malay Peninsula and the Southeast Asian archipelago, a region referred to by botanists as "Malesia." (Note 3) Plant families that characterize forests of the region include Myristicaceae (the nutmegs), Annonaceae (the soursops), Musaceae (the bananas), Ebenaceae (the ebonies), and, most importantly, Dipterocarpaceae. The island of Borneo alone includes 287 species from the Dipterocarpaceae family and it is the big trees from this group that comprise much of the canopy and emergent trees in many Southeast Asian lowland evergreen forests.

The species-diverse, closed-canopy rain forests of Southeast Asia extend across the archipelago, gradually shifting to monsoon forests in the southeastern islands of Indonesia but reappearing in the Moluccas and New Guinea. Rain forests are also found in mainland Southeast Asia, measuring more than two meters of annual rainfall and with a dry season of less than five months. This includes parts of Burma, Thailand, Cambodia, Laos, and Vietnam, extending into southern China, Bangladesh and Assam. As seasons become more distinct farther from the equator, the floristic character of tropical forests is altered and they become simpler in structure (Note 4). Greater seasonal variation in temperature and moisture may result in a lower forest canopy, reduced species diversity, and diminished stand density. As forest density and height decline, so does the biomass. In areas with extended dry seasons, monsoon forests are more common, with open woodlands and scrub forests common in the more and regions.

Botanists have broadly divided Asia and the Pacific into five floristic regions: India, Indo-China, Malesia, Australasia, and Pacific. This report will consider two of these regions: the Malesia, which comprises Malaysia, Indonesia, the Philippines, Brunei, and Papua-New Guinea; and, Indo-China, whose floristic region stretches from Burma to southern China, and south to Thailand. Malesian flora encompasses at least 35,000 species of flowering plants. Nineteenth century naturalist A.R. Wallace, noting that eastern and western Malesia have distinctly different animal species, demarcated a sharp boundary line, "Wallace's Line," to divide the region's flora and fauna. There is a sharp floristic change between Borneo and Sulawesi, which fall between the line, though there is less variation in the Lesser Sunda Islands.

The forests of Southeast Asia can be broadly divided by broad climatic parameters that reflect the amount and seasonal distribution of rainfall. On a more localized, landscape scale, important factors determining forest type and composition include soil moisture, soil type, latitude, and elevation. Whitmore broadly divides tropical forests into those that are seasonally dry and those that are ever wet, or perhumid. Seasonally dry forests with extended annual water shortages are considered monsoon forests, while those with slight annual shortages are often known as semi-evergreen rain forests. In the perhumid regions, forests are broadly divided between those on dry land and those with at least periodically high water tables. Perhumid forests with well-drained soils are further classified as lowland evergreen rain forests, lower montane rain forest, and upper montane forests, sometimes also referred to as "mossy" or "cloud" forests. In areas prone to flooding, forest types include mangrove, which exist along coastal areas exposed to salt water, and freshwater swamp and peat swamp forests (see Figure 4).
Peter Ashton’s zonal classification for lowland forests of tropical Asia is climate-based. Broad categories include: wet aseasonal evergreen with no distinctive dry season, wet seasonal evergreen with 2 to 4 months dry season and dry seasonal evergreen with 4 to 6 months of dry season. Most evergreen forests in Southeast Asia are dominated by Dipterocarp species. As an alternative to monsoon forests, Ashton suggests a mixed deciduous category with more than 5 months dry period, and a dry deciduous forest with 7 months or more dry season. These latter zones are subject to seasonal burns and are dominated by fire-tolerant species. (Note 5)

LOWLAND EVERGREEN RAIN FORESTS

Tropical lowland evergreen rain forests are found in South America, Africa, and Asia and result from a combination of high and even temperatures, high humidity, and high rainfall. Tall trees, a large volume of biomass, and high species-diversity are characteristic of lowland rain forest vegetation. Rain forests in Southeast Asia are especially rich in species. Study sites in Borneo possess between 200 and 250 species per hectare, versus 50 to 100 species in comparable studies from Africa and tropical America. In the past, the private sector has focused on a narrow range of Dipterocarp and Shorea trees that possess commercial value as timber. For this reason, lowland Southeast Asia rain forests are often referred to as mixed dipterocarp forests. Dipterocarp form the dominant skeleton or structure of the rain forest.

Due to the dense canopy, much of the available sunlight is filtered out before it reaches the forest floor and, as a result, much of the green plant matter is found some distance above the ground. With a multi-tiered structure extending from the forest floor to 70 meters or more in height, Southeast Asian rain forests possess rich biodiversity. Tropical rain forests are often referred to as evergreen forests, though they vary considerably in moisture levels. Rain forests with greater moisture are found largely on the Malay Peninsula, the eastern Philippines, and the islands of Sumatra and Borneo, with scattered patches on the mainland. Typically, rain forests are the natural climax vegetation, or last stage, found in areas where there is less than four months dry season and a minimum of 100 mm of precipitation each wet month. Areas with longer dry periods are commonly referred to as monsoon forests. Along the margins of rain forests and monsoon forests, a variety of ecosystems shaped by local soil conditions and human activities can be found.

Figure 4: TRANSECT OF MAJOR SOUTHEAST ASIAN FOREST TYPES

High levels of precipitation result in rapid nutrient leaching in rain forest soils. In response, rain forests have evolved tight systems of nutrient recycling relying on efficient decomposition and re-absorption of nutrients. Although plant diversity and
Biomass volumes are extremely high in Southeast Asian evergreen forests, rain forests possess fewer animals per kilogram of plant matter than any other tropical ecosystems (Note 6). Animal populations are largely made up of invertebrates, with vertebrates mainly confined to arboreal and flying animals able to take advantage of the food available in the upper canopy stories. While animal populations increase in the seasonal and monsoon forests in Southeast Asia, these forests do not possess the larger herds of grazing ungulates found in the seasonal and dry tropics of Africa. Instead, animals in rain forests generally are solitary or exist in small family groups. There are exceptions, however, such as the Borneo pig, *Sus barbatus*, which migrates in large herds during seasonal mast fruiting.

Human populations have typically resided in rain forests in small groups, of extended families or clans. In contrast to agricultural communities in Southeast Asia that became alienated from forest environments over the centuries, forest-dwelling communities have remained dependent on forests for wild animal protein, starch from wild yams and palm pith, medicinal substances, resins, fibers and timber, and other products for trade goods.

There is mounting evidence that human beings have manipulated some rain forests in the seasonal tropics for hundreds of years through shifting cultivation and burning, affecting species composition. The fragility of the rain forest environment makes it a challenging context for human habitation. When opened for agriculture, the efficient forest-nutrient cycling system is disturbed, exposing soils to erosion and rapid degradation, especially the organic matter that is the main nutrient store.

Over the millennia, human populations have developed management systems to utilize fragile rain forests for agriculture. These indigenous systems affect the forest ecosystems in different ways, depending on a variety of factors such as site conditions, fire use, length of rotation, and local knowledge. While little longitudinal data is available, Jeff Fox's analysis of time series data from northeastern Cambodia indicates that the long-rotation swidden systems have maintained a dynamic but stable forest cover for the 50 years that the images document (see Part IV, Box 4). While some shifting cultivation systems have brought about extensive deforestation, Benuaq Dayak forest farmers in eastern Kalimantan are careful to only utilize their swidden fields for one year for their rainfed paddy crop, mixing rattan and fruit trees in the newly regenerating forest after the plot is fallow. The Dayak of Muara Wahau estimate that a young secondary forest takes 3 to 15 years to mature followed by an old secondary forest, and eventually a primary forest in 110 to 180 years, depending on soil conditions. Most of the actively farmed forestland is under a 15-to 50-year cycle. As with many other farmers employing swidden systems, the Benquaq Dayak rarely open primary forest, relying primarily on reopening secondary growth (Note 7).

Many forest groups in Southeast Asia have acquired an extensive knowledge of plant use, soil conditions, fire practices, and forest succession patterns, using this knowledge to adapt swidden-farming systems to the surrounding environment. Myth, ritual, taboo, divination rites, and oral traditions, together with communal institutions and leadership, provide a means for implementing forest management strategies and communicating this information across generations. Indigenous knowledge of forest environments, accumulated through centuries of experimentation, allows communities to better regulate forest use and enhance the stability of human-ecological relationships.

Swidden farming systems are suited to low population densities and extensive use practices. As populations increase, both through natural growth and migration, forest farmers are often forced to accelerate their rotations, which leads to depletion of soil nutrients and poor succession rates in fallow areas. Migrant communities settling near the forest frequently lack the traditional knowledge of local residents whose ancestors have resided in the area for generations. Migrants have been responsible for opening millions of hectares of forestland in Southeast Asia, often entering by logging roads and exploiting lands already felled by timber companies. While sustainable management options are limited in the generally poor soils of lowland rain forests, many local forest communities, both migrant and indigenous, are continuing to experiment with new...
ways to productively manage natural forests. The case studies presented in this report document a diversity of forestry and agroforestry practices that mimic natural rain forests in many ways, including swidden systems, mixed-tropical fruit gardens, damar reserves, rattan groves, and yang oil forests.

**SWAMP FORESTS**

Swamp forests exist in areas with water-saturated soils. Found in the coastal regions of Sumatra, Malaya, Borneo and western New Guinea, these forests often occupy areas once covered by mangrove forests. As organic matter accumulates under anaerobic waterlogged conditions and levees develop that reduce salt-water intrusion, inland species begin to replace mangroves. The soil is so anaerobic that bacteria cannot convert fallen vegetable matter into humus. This litter is then converted into peat, which continues to build up over time. As the humus accumulates, the water table changes and different forest species gain dominance. In one site in Sarawak, a peat dome stretching across 20 kilometers of swamp was found to possess six different forest types, located in concentric rings. Soil core samples from the oldest forest in the center of the dome indicate that these six forest types succeeded one another. The inner type is a stunted open forest, with the outer forest comprising commercial species with a height of 50 meters. (Note 8)

Since the peat is semi-liquid and nutrient poor, deep peat soils make very poor agricultural land. Where peat swamp forests have been cleared for cultivation, acidic subsoils gradually work their way to the surface after several years of farming, with resulting rapid fertile declines. The Buginese and other ethnic groups in Southeast Asia developed methods of farming rice on these soils for three to five years, while building up "bunds," or mounds, for planting fruit tree crops. As rice fertility declined due to the mixing of acid subsoils, production was shifted to the elevated fruit tree gardens. The Dutch colonial government, and later the government of Indonesia with World Bank funding in the 1970s and ‘80s, followed an alternative approach in making swamp forests fit for agricultural production. The strategy relied on the construction of networks of drainage canals. Agricultural settlers struggle to sustain agricultural production on acidic soils while large areas in south Kalimantan and other Indonesian provinces have been cleared and drained (Note 9).

Aside from the more brackish peat swamp forests along the coast, there are also a variety of periodically flooded fresh water forests in Southeast Asia. In Borneo, where the water first reaches the flat land after leaving the hills, flood levels can be extreme. An important species in these forest is the ironwood tree (*Eusideroxylon zwageri*), a heavy hardwood species. Due to its extreme density, ironwood is highly resistant to rot, decay, and insect attack and is therefore prized as material for house posts and shingles. While the houses in these areas literally rot, their ironwood posts can be used for several generations of homes.

One of the largest seasonal swamp forests in mainland Southeast Asia borders Tonle Sap Lake in central Cambodia. During the monsoon season (May through October) water flowing down the Mekong River backs up a tributary, pushing water into the forests surrounding Tonle Sap, the biggest freshwater lake in Southeast Asia. A slight incline in the central Cambodian Depression forces the Mekong to reverse its flow up the 80-kilometer long Tonle Sap channel. The lake level rises 10 to 15 meters during the rainy season covering a 20 to 25 kilometer ring of forests around the lake or some 1500 square miles of land area. Over 200 species of fish migrate into the flooded forest to spawn during the rainy season, feeding off plants and insects that live in submerged trees. The government of Cambodia grants fishing concessions for inundated forest areas, including forest ranges flooded during the monsoon. During the dry season, migrants move into communities near the lake. Mining and the conversion of flood forests to agricultural land threaten the complex relations between the lake and river hydrology and the flood forest ecosystem. Commercial timber operations in
upstream watersheds have accelerated the sedimentation of Tonle Sap Lake, threatening the fishery that has seen catches fall from over 100,000 tons per year in 1975 to 60,000 tons in the early 1990s. (Note 10)

MANGROVE FORESTS

Mangrove forests are located in coastal areas, usually in shallow shorelines where silt is deposited by streams and accumulates with the movement of the sea. The spidery roots of the mangroves hold the sediments in place, providing an important habitat for fish fry and other aquatic animals. Mangrove forests once covered much of the shoreline along the Java Sea and the Straits of Malacca. At the outlets of the Solo and Cimanuk rivers in Java, sediment can extend the deltas more than 100 meters each year. The Mekong and Irrawaddy may lengthen 60 to 80 yards annually, creating growing environments for mangroves. (Note 11)

Mangrove forests have less species diversity than other Southeast Asian forest ecosystems. They are largely dominated by Rhizophoraceae species that have the capacity to send down special breathing roots from their branches to capture oxygen from the air. As the roots trap silt, they gradually create a firmer and drier environment. The pioneering genus, Sonneratia, establishes itself above the level of the lowest of the low tides. Its tolerance for salt water allows it to withstand almost continuous inundation. The Sonneratia creates a forward wall and through its web-like root system traps silt, building a shallower base for the species of the Rhizophora genus. In turn, species from the Bruguiera genus of mangrove are able to colonize land higher up the bank, where its more sensitive roots are washed only in the highest of tides. Mangroves are able to colonize the silting deltas of the large Southeast Asian rivers possessing some 30 species with special features that allow them to exploit each phase of land creation. Some species reach heights of 30 meters or more, while others are low and shrub-like. The seeds of the mangrove germinate before leaving the parent tree and are ready to take root when they fall into the mud. They are also able to float with the tide for extended periods until they reach a suitable growing site. Along the western coast of the Malay Peninsula, mangrove forests form a fringe up to 12 miles wide. Moving inland, mangrove is replaced by the nipa palm and pandanus.

Mangrove forests like these young regenerating stands on the coast of Cebu in the Philippines send their spidery roots down to hold the sediment, providing a safer haven for fish fry, crabs, and other animals. (photo: Poffenberger)

Mangrove forests in Southeast Asia are being cleared at a rapid rate, more quickly than other natural forest ecosystems. Because these forests are well suited to producing tiger prawns and shrimp, large capital investors have been gaining control over them and converting them for commercial aquaculture. In some parts of the region, local communities have struggled to retain control. In southern Thailand, one survey found 110 coastal communities protecting over 100 patches of mangrove and peat/swamp forests. In only two cases were these communities traditional forest protection groups, the vast majority having been formed since the late 1980s to resist both external and internal encroachments on the resource base (Note 12). Along the northern coast of Java, shrimp and prawn culture developers and charcoal producers have cleared much of the mangrove forests that buffered the shoreline. In the late 1980s the State Forest Corporation attempted to conserve some of the remaining mangrove forest by empowering local communities to act as managers of aquaforestry groves that combined mangrove trees on bunds with fish farming in brackish water ponds interspersed in the forest.

Despite community and government efforts to conserve coastal mangrove forests in Southeast Asia, the
ecosystems are disappearing rapidly. Throughout most of the 1980s and 1990s, Indonesia lost an estimated 100,000 hectares annually, representing a two percent decline of mangrove forests each year. In Thailand, nearly two-thirds of the nation’s mangrove forests have been degraded through heavy fuelwood and timber exploitation, with a total annual loss of 2,700 hectares. Mangrove forests in Vietnam were severely damaged during 1960s and '70s, with about one-half destroyed through aerial spraying of the herbicide Agent Orange by the American military. A Vietnamese government initiative to re-establish mangrove forests has led to an impressive recovery of these coastal forests in parts of the Mekong and Red River deltas. Scientists are concerned that the reduction in mangrove forests throughout Southeast Asia, while benefiting prawn and fish farmers, has been done at a considerable cost to sea fishermen who have lost a critical spawning ground for future catches.

**MONSOON FORESTS**

Monsoon forests, also termed *tropical deciduous forests* according to classification systems developed by H. Champion and Peter Ashton, are quite distinctive in the dry season when their predominantly deciduous trees shed their leaves. Rainfall in these drier forests usually ranges from 700 to 2,000 mm. annually, versus 2,000 to 4,000 mm. of precipitation per year in lowland rain forests. A more powerful indicator of forest type than total rainfall, however, is seasonality. In the wet season, without careful study of the structure, species composition, and related features, many tropical deciduous forests are difficult to distinguish from evergreen forests. Since rain forests and monsoon forests are difficult to distinguish in satellite images and aerial photographs, they are often classified together as closed or moist forests. Typically, monsoon forests are found in regions with a regular dry season of five months or more and with less than 60 mm. of precipitation. Longer dry seasons are often associated with decreased canopy density, reduced species diversity, and shorter forest stature.

Dry deciduous lowland monsoon forests of north and northeast Thailand and Burma are well known for their teak (*Tectona grandis*), a valuable species of timber. Teak withstands extended dry seasons and grows best in well-drained, dry subsoils high in calcium. In the dry deciduous dipterocarp forests in the lower hills of northern Thailand, trees of the *Shorea* and *Melanorrhoea* genera are common. Monsoon forests are more prone to burning than rain forests, and are actually dependent on fire for regeneration. The lowland monsoon mixed deciduous forest is shorter in stature than the lowland rain forest, with some trees attaining heights of around 20 meters. They may also possess denser understories of four or five tiers. Bamboo often forms dense thickets.

In mainland Southeast Asian countries monsoon forests make up between 15 and 30 percent of the forest cover. Extensive tracts of monsoon forests have been converted to agricultural land over the past 50 years, because of their relatively fertile soils. In northeastern Thailand, forest cover fell from 50 percent of the area in 1953 to 13 percent in 1991, much of it monsoon forest. Deforestation has been driven by an increase in population that ranged from 3.3 to 3.8 percent annually during the 1960s and '70s. Growing numbers of local and migrant peoples cleared the forest to plant commercial field crops like hemp and cassava that required large tracts of land. Teak, an important species in many mainland Southeast Asian monsoon forests, has been heavily exploited for its value in house construction. As a consequence, monsoon forests are subject to
commercial logging pressures.

MONTANE FORESTS

Insular and mainland Southeast Asia possess a wide range of mountain forest types including higher elevation montane and a variety of lower elevation hill forests. Latitudinal regions range from tropical, through warm tropical, to cool temperate, verging on alpine in the higher elevations of Irian Jaya. Most montane forests in Southeast Asia, however, are either lower montane tropical evergreen or upper montane mossy forest. Montane forests, particularly mossy forests, play an important hydrological and biological conservation role. When located on steep slopes with highly organic soils in high rainfall areas, cloud forests protect the watershed against erosion. Deforestation in such contexts often leads to catastrophic landslides. (Note 13)

Montane forests are characterized by the presence of a diversity of ferns, mosses, gingibers, and orchids. Trees are often stunted and gnarled with a smooth, low canopy. Moisture levels tend to be higher than neighboring forests at lower elevations as they are augmented by fog and cloud humidity. Upper montane cloud forests in Southeast Asia are typically found to be between 1,500 and 3,500 meters. Lower montane rain and monsoon forests usually fall within the range of 1,000 to 2,000 meters. Montane forests are important reservoirs of endemic species, especially birds. Above 3,500 meters can be found subalpine and alpine forests. As lowland forests have diminished, mammal populations have also moved into more mountainous areas with forest cover.

Lower montane forests below the cloud line are drier, especially those along the coastal ridgelines that are subject to trade winds. Lower elevation forests above the cloud base possess emergents and are subject to greater precipitation. The boundary between lower and upper montane forests is often distinctive, with a narrow blending zone (ecotone). (Note 14) Upper montane forests normally begin at the bottom of the zone where clouds usually form. The habitually moist environment creates a sodden, anaerobic condition where litter decomposition is slow. As a consequence, it has similarities to both the peat swamp and heath forests. Due to the lengthy process of decomposition, nutrients remain locked in the forest litter and unavailable to plants. (Note 15) Because montane forests can "strip" water from clouds and maintain low evapo-transpiration water "loss," these mossy forests play an important role in capturing and filtering water into surface and ground water. This type of forest is particularly important on smaller islands, where montane forests are crucial for sustaining water supplies.
The relatively better condition of some mountain forests is attributable to their inaccessibility, as well as to the lesser abundance of commercial timber species. But, expanding local populations that depend on mountain forests for fuelwood have put these forests at risk in recent decades. Perhaps more threatening has been the expansion of roads into mountainous regions and, with them, commercial development. In northern Thailand, upland Java and Sumatra, and through much of the upper watersheds of the Philippines, montane forests have become increasingly fragmented in recent years. At the same time, because of the unique characteristics of these environments, they have immense potential for nature conservation and ecotourism.

Notes


3 Ibid. p. 28.


6 Hutterer, p. 62.


8 Whitmore, p. 22.

9 KEPAS, Tidal Swamp Agro-Ecosystems of Southern Kalimantan (Jakarta, Ministry of Agriculture, 1983).


14 Whitmore, p. 146

15 Ibid. p. 147.
INTRODUCTION

The national profiles presented here examine the changing social, economic, and political factors that are shaping the relationship of communities with forestlands and resources. Each country discussion explores formal and informal policies and the extent to which they are helping rural people gain formal authority over their forests. This section begins with a brief description of the regional trends in policies and strategies formulated by government, development banks, and agencies over the past thirty years.

Beginning in the 1950s, governments in Southeast Asia dramatically increased the capacity of their administrative structures to guide development activities at the village level. The benefits were manifold, including the provision of a variety of valuable educational, health, and infrastructure services. At the same time, there have been social costs as well. Indigenous community governance mechanisms, such as tribal chiefs, councils of elders, water user groups, farmers associations, and native cultural bodies, have frequently lost authority to government appointed leaders and institutions. As decision-making regarding forest use became increasingly centralized, with a growing stream of policies and programs formulated in national capitols percolating downwards to the community, state enterprises and private sector companies moved into rural forest areas taking control of local resources and establishing commercial operations.

<table>
<thead>
<tr>
<th>Box 2: Southeast Asia’s Land and Forests</th>
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<tbody>
<tr>
<td><strong>Cambodia</strong></td>
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<tr>
<td>Land Area (Km²)</td>
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<tr>
<td>State Forest Area Percent of Total</td>
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<tr>
<td>Actual Forest Cover 1995 Percent of Total</td>
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<tr>
<td>Old-Growth Forest Percent of Total</td>
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<tr>
<td>Annual Deforestation Rate 1990-95 Percent of Total</td>
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<table>
<thead>
<tr>
<th>Box 3</th>
<th>Southeast Asia’s Population (in Millions)</th>
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</thead>
<tbody>
<tr>
<td><strong>Cambodia</strong></td>
<td><strong>Lao PDR</strong></td>
</tr>
<tr>
<td>Population 1995</td>
<td>10.9</td>
</tr>
<tr>
<td>Projected Population 2025</td>
<td>17</td>
</tr>
<tr>
<td>Forest-dependent Peoples 1995</td>
<td>1.4</td>
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</tbody>
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Sources: Figures presented in this table are estimates drawn from FAO and World Bank country reports and consultant documents.

The right to allocate state forest resources, often representing 50 to 80 percent of a nation's land area, gave government officials tremendous power. Today, as Box 2 indicates, national governments legally claim much of the land area of Cambodia, Laos, Indonesia, Philippines, Thailand, and Vietnam, as official state forest domain,
even though less than half actually possesses significant forest cover. This discrepancy reflects both the failure of state forest management to maintain natural forest cover, as well as the reluctance of political leaders to release deforested lands from state control. While governments empower forestry departments with the legal authority to act as public land managers, political leaders usually end up making critical policy decisions regarding forest resource allocation (Note 1). In other words, most forest departments are limited to implementing forest policies, rather than making them.

While possessing the legal authority to act under national forest laws and policies, the field-level staff has problems exerting this power. Even in the largest Southeast Asian countries, most forest departments have no more than ten or twenty thousand employees, many of whom are office workers. Field-level staff are located in sub-district offices and a few widely scattered outposts, often with little transportation or communication support. A single forester may be responsible for 100,000 hectares or more. As Box 3 indicates, forest user communities are numerous with millions of forest-dependent people living and working in the woods. As a consequence, while government officers carry the legal authority to act as keepers of the forest, they are vastly outnumbered by indigenous and migrant users, and, thus, it is people from local communities who are frequently the de facto forest managers.

The early social and community forestry programs, supported by development agencies in the 1970s and '80s, stressed the involvement of villagers in the creation and management of woodlots and reforestation with fast-growing trees. Multiple objectives included employment, increased fuelwood supplies, generation of industrial raw materials, and watershed restoration. Over the next two decades, but with mixed results, several billion dollars were invested in plantation-oriented social forestry schemes. What these programs failed to address was the issue of public forest tenure, management, and the legal position of the community. This omission became increasingly evident as the gap increased between "official" state forest territory and the actual forested area. The dispute over resource rights was reflected in conflicts between villagers and logging concessionaires as well as with forestry field staff, and protected area managers.

By the 1980s, growing concern over deforestation in the region led many government planners and development agency experts to reconsider the wisdom of industrial forestry and the capacity of state agencies to sustain natural forests. The new school of resource economics was also proving that the social and environmental costs, both direct and indirect, of logging and mining were high and that natural resource extraction was an expensive proposition for the larger society. Bilateral and multilateral development banks began encouraging governments to explore alternative forestry sector strategies that were more responsive to rural people. The World Bank, FAO, and other organizations began promoting community forestry as a new model of development assistance, though fundamental issues of forestland rights were rarely directly addressed and project emphasis continued to be placed on capital and technical investments (Note 2).

The IMF, the World Bank, the European Union, DFID, USAID, SIDA, GTZ and many other development agencies are eager to see forestry sector policy reforms. Yet, due to the unstable political and economic environment, especially in the wake of the 1997 economic recession, reform in the forest policy sector has been sporadic. Development agencies themselves hold conflicting views regarding strategies for sustainable resource management, often considering foreign investment and resource development as a key, while at the same time supporting devolution and local resource management projects.

The Asian economic recession has caused a decline in international market prices for Southeast Asian plywood and logs slowing the pace of logging concessionaires in some countries. And, at the same time, many governments in financial distress and desperate for hard currency are creating attractive policies for foreign investment, often at the expense of forest-dependent communities. Forest clearing and massive fires in Kalimantan and Sumatra, for example, appear linked to the expansion of plantation crops on hundreds of thousands of hectares of forest each year. Unlike the impact of selective logging operations in the 1970s and '80s, commercial agriculture and horticulture development appears to have a much greater impact on the natural environment and in displacing communities and disrupting local social and economic systems. But despite this, many countries are now developing or considering new community forestry policies and initiating innovative programs. Some of these will be examined later. The country reviews that follow illuminate the many forces supporting and undermining the involvement of communities in sustainable management of the region's threatened forests.

**CAMBODIA**

**HISTORY AND CONTEXT**

Cambodia is situated in the heart of mainland Southeast Asia, bordered by Vietnam and Thailand, with Laos to
the northeast. Ninety percent of the population is Khmer. The fertile plains of the Mekong River, the productive fisheries of Tonle Sap Lake, and the rich forests of northwest and southeast Cambodia have supported great kingdoms over the centuries (Note 3). The central lowland forests were cleared, with extensive irrigation systems built, during the Khmer Empire of the twelfth and thirteenth centuries. After the fall of the Angkor Empire in the fifteenth century, Cambodia remained isolated until colonized by the French during the nineteenth century. As in Laos and Vietnam, French rulers took control of the more accessible forests, some of which were planted with rubber and other estate crops. Most of the country's upland watersheds remained isolated, however, inhabited only by ethnic minorities practicing long rotation agriculture.

During the 1970s, the conflict in Vietnam spread to Cambodia, destabilizing that society. American bombing and herbicide spraying along the eastern border damaged forests in Ratanakiri and Modulkiri provinces. During the brief period of Khmer Rouge rule, extensive areas of forest were cleared for agriculture. In other areas, the displacement and decline of local populations took pressure off natural forests and allowed for regeneration. After the Vietnamese invaded Cambodia in 1978 and established the Hun Sen government, the Khmer Rouge took refuge in the forests to the west, supporting their operations through timber sales. Political conflicts prevented any systematic environmental monitoring of Cambodia's forests for several decades, though a recent World Bank project has generated new information.

From 1969 to 1997, it is estimated that 2.6 million hectares of Cambodia's forests were felled, with forest cover declining from 73 percent to between 35 and 58 percent of the land area, depending on the criteria used (Note 4). A 1986 World Conservation Union (IUCN) report estimated that as little as 10 percent of the country was primary forest. (Note 5) In the past, forest loss in Cambodia was largely attributed to local farmers opening chamkar (swidden) fields to plant rainfed rice, bananas, and other crops. From 1960, 2.5 percent of all forests were cleared each year for agricultural land. Under these long rotation-farming systems, lands are left fallow after a short period of use and most forest regenerates rapidly. Recent studies of aerial and satellite images indicate that forests in areas where chamkar is practiced have a dynamic or shifting forest cover, but that the total area under forest remains quite stable (see Box 4). (Note 6)

### Box 4: Swidden Farming and Natural Forests in Cambodia

During the 1970s and much of the 1980s, swidden farmers were branded as practitioners of ‘slash and burn’ agriculture, viewed as illegal encroachers on public forestlands, and said to be responsible for much of the deforestation in Southeast Asia. This perspective has begun to shift, as new scientific technology illuminates how the changes in the land brought by upland farmers are often dynamic, but far more sustainable than once believed. A recent study by Jeff Fox at the East West Center examined the effects customary rotational farming systems had on natural forest cover in Northeast Cambodia, generating some important and exciting findings. An analysis of aerial photographs of Ban Lung taken in 1953 show that 78 percent of the area possessed natural forest cover, including 18 percent old growth broadleaf evergreen forests and 60 percent regenerating secondary growth, mostly from fallow, swidden fields. Twenty-one percent of the area was under active swidden cultivation. By 1996, old growth forest cover had increased to 26 percent, while both secondary growth and swidden areas had decreased to 51 percent and 14 percent, respectively.

Despite heavy use by swidden farmers, the overall tree cover, including both old growth and secondary regeneration, remained constant to around 77 or 78 percent in the Ban Lung area throughout the 43-year period. The study also revealed that two important changes are the commercialization of farming systems and the fragmentation of forests. In terms of agricultural lands, the biggest change during this period was a decrease in swidden, 21 to 14 percent, and an increase in land devoted to villages and plantations, rubber and palm oil 1 to 8 percent. The increase in plantations confirms that the Ban Lung area is moving quickly towards commercialized forms of agriculture. Changes also occurred in the number and size of landscape fragments. In 1953, there were 20 fragments of forest with an average size of 166 hectares. By 1996, this number had grown to 85 fragments with an average size of only 56 hectares. The number of swidden fragments grew from 175 to 706 and the mean size decreased from 23 hectares to 4 hectares. When we look at any individual plot, however, land cover may have changed several times during this period. As a land-use practice, swiddening results in relatively small patches of disturbance that, after they are abandoned, regenerate into secondary forest. Swiddening causes fragmentation of forest cover as once homogeneous patches of forests are converted into a mosaic of tree cover in different stages of regeneration.

Land cover in the region was shown to be both stable and dynamic. By 1996, 43 percent of the forest that existed in 1953 around Ban Lung was lost. On the other hand, 24 percent of the closed-canopy secondary forest, 14 percent of active swiddens, and 13 percent of other lands reverted to mixed broadleaf evergreen and deciduous forest. Tropical biodiversity conservation is undergoing a conceptual transition where isolated forest fragments, logged forests, and secondary growth forests are now being recognized for their value in the conservation of biological diversity. A new paradigm for the management of tropical biodiversity is emerging that extends conservation to human-impacted lands. Government planners and resource managers in Cambodia should recognize that swidden cultivation, rather than being a threat to tropical biodiversity, may be the most ecologically appropriate and culturally suitable means available for preserving biodiversity in many upland areas of Southeast Asia. To do this, planners and government agents should seek to improve swidden systems through greater investments in research on methods of maintaining the biodiversity of the region.
The unregulated logging and transport of high volumes of logs across the Thai and Vietnamese borders was made public after Global Witness began publishing a series of reports on illicit logging activities within Cambodia. During the 1997-98 dry season, it is estimated that between 200,000 and 400,000 cubic meters of logs were exported from Ratanakiri province to Vietnam, while on the other side of the country, in Battambang province, 125,000 cubic meters went across the border to Thailand (Note 7). Nationwide, it is estimated that some 4 million cubic meters of timber are being exported from the country, at least four times the estimated sustainable harvest. A World Bank report concludes that 94 percent of timber exports are the result of illicit felling and transport, failure to pay government fees, or other illegal practices.

Economically crippled by decades of civil war, Cambodia sees forest resources as a key to its development. Senior government officials have distributed concessions among powerful individuals in the military to unite factions and buy political support. While the strategy of rewarding political allies with forest concessions has brought greater stability to the national government, it has also exacerbated corruption. Equally threatening, the transfer of much of the nation’s land area to foreign corporations has been at the expense of forest-dependent communities.

In Cambodia, as elsewhere in Southeast Asia, forest-dependent communities increasingly compete with transnational corporations for access to natural resources. From 1993 to 1997, the 7 million hectares of land turned over to logging concessions produced four million cubic meters of logs. While communities are estimated to clear 70,000 hectares of forest each year for fanning, much of this is shrub land rather than forest (Note 8). Nearly 40 percent of Cambodia’s total land area has been allocated to large timber concessions, many of them joint ventures between local elite’s and foreign corporations. The military remain in control of many of the logging operations under way in Cambodia.

According to a recent Global Witness report, “the military are at the core of the logging problem and have to be removed from the forest equation.” (Note 9) Thousands of communities located within the concession areas hold usufruct rights to the land under customary laws and are heavily dependent on it for their cash income and subsistence needs (see Ya Poey case study in Part V). Forty percent of Cambodians live in absolute poverty and much of their income is derived from common-property resources like forests and fisheries. Government policies that allocate large parts of the resource base to foreign commercial interests directly cut into the income available for a large segment of the population.

Cambodian forests are extremely important to both rural and urban communities. Recent surveys indicate that 98 percent of villagers and 85 percent of Phnom Penh residents rely on wood and charcoal as a primary source of fuel, consuming six million cubic meters of wood annually. (Note 10) The lowland flood forests along the Mekong and the periphery of Tonle Sap Lake provide the habitat for Cambodian fisheries which supply a protein-rich diet and livelihood for 40 to 60 percent of all families. Upper watershed forests enhance regular water flow for the lowland agricultural plains and urban centers. In addition, forests provide materials for housing and tools, and supply a wide variety of foods and medicines. Resins, gums, oils, fruits, birds’ nests, aromatic wood, and other marketable products are all collected in natural forests. Forests are also an integral component of village hydrology and many rural farming systems, both sedentary and rotational. Consequently, villagers are concerned when national planners begin to turn over communal forest resources to outside interests.

In lowland population centers, especially those near urban areas, demand for fuelwood and charcoal have grown rapidly, depleting many smaller forests. During the time these forests were under the loose authority of the community, outsiders were allowed to collect subsistence products. In recent years, however, as forest product's have become more scarce in lowland areas, communities with neighboring forest patches are attempting to exert exclusive control over these resources. Some communities are organizing more intensive systems to manage their forests and other natural resources, especially as they come into conflict with neighbors or commercial interests. On occasion, the military is brought in to protect logging concession workers and, in the process, deny local inhabitants access to forests they have used for generations.

In the case of the Mieng Ly Heng concessions, the company completely closed the forest, even banning villagers from collecting non-timber forest products. The harvesting operations included cutting big trees, such as gum and resin species, important as a source of local income. “The people were very angry with the company, but didn’t know what to do because the company was threatening them. Even land in the perimeter of the Baac San Karma pagoda had been bulldozed and used as a log dump.” (Note 11) In subsequent months, the community expressed their discontent by burning a number of company trucks. In another village
in Kampong Thom province, villagers were upset that the Lan Song Company had begun logging operations in the forest near their settlement.

_The people are angry with the company because the trucks work at night and people can't sleep ... the trucks run over pigs, chickens, ducks and are degrading the rice fields ... The chief of the village and commune has complained to the district but without any resolution to the problem. Both villagers and village militia cannot do anything because all the log trucks have soldiers protecting them_ (Note 12).

**RECENT POLICY AND PROGRAM INITIATIVES**

Since the mid-1990s, the World Bank has supported a national forest policy reform project in Cambodia. According to a recent report commissioned by the World Bank project analysts concluded that, “the current forest law is complex, inconsistent, and unenforceable. An unclear legal framework has made enforcement by forestry and other officials difficult, if not impossible. (Note 13) Forest concessions are allocated without a transparent process, with an absence of competitive procedures, and with no standards for management or enforcement. A new forest law has been proposed to replace earlier forest legislation. As part of the World Bank/FAO/UNDP sector strategy in Cambodia, a review of forest policy is currently under way. The existing Cambodian Forest Law grants all forestland to the state. Including degraded lands, this covers nearly 80 percent of the country.

In 1996, a sub-decree was drafted to support and encourage community involvement in forest management. The original CFM sub-decree was limited to extending community forest management rights to villages with degraded forest or plantation land. Primary and secondary forests were not mentioned in the draft policy as land available for community management. Some government officials feel that the new policy will likely be approved before the end of 1999.

Two national agencies, the Department of Nature Protection and Conservation and the Department of Forestry and Wildlife, both established community forestry units (CFUs) in 1998. While a national community forest management policy has yet to emerge, a multi-agency working group is lobbying effectively to bring greater attention to the need to empower villages as stewards of local forests. While Cambodian conservation and forestry agencies have limited experience in designing and implementing community forestry programs, staff training programs are already under way with support from international agencies and the NGO community. (Note 14) The Regional Community Forestry Training Center (RECOFTC), based in Bangkok, has played an important role in strengthening in-country capacity to engage forest-dependent groups.

A series of pilot projects have been initiated by Oxfam, Concern International, UNDP, DANIDA, FAO, IDRC, UNV, GTZ, and other organizations. The case of Ya Poey Commune in Ratanakiri province, presented in Part V, illustrates how, with assistance from Oxfam, a cluster of ethnic minority villages have gained some recognition of their customary rights from the provincial government, and how they are attempting to protect local forests from logging. Project Concern and MCC support a number of community-based natural forest regeneration projects in the more densely populated provinces of Takeo and Kampong Chhanang.

In a forest village near the north coast of Java, Indonesia, the state forest corporation (Perum Perhutani) experiments with community forestry, engaging NGO Bina Swadaya to facilitate a meeting of forest farmer group leaders to discuss annual and perennial species to be included in household agroforestry plots. (photo: Poffenberger)
Despite efforts by local communities and development agencies to encourage community forestry, Cambodian government policies currently allow widespread commercial exploitation of the nation's natural forests. In early 1999, in an effort to slow commercial logging and meet World Bank loan requirements to reduce concessions to 4 million hectares, the Cambodian government canceled 11 logging contracts covering 2 million hectares (Note 15). The council of Ministers created a national committee to monitor unregulated logging and authorities have torn down 300 unlicensed sawmills and seized equipment. While these steps are encouraging, environmental groups monitoring the Cambodian situation fear that the government may be taking action largely to appease international lending agencies. Global Witness warned that the country's military is positioned to resume illegal logging once critical loans are approved. There is also concern that attacks on small-scale sawmill operators will disrupt local wood supplies, causing hardships for rural populations, while “major perpetrators of illegal logging” will go unpunished. (Note 16)

Cambodian government efforts to establish a network of protected areas, while well intentioned, have also created tensions in areas where villages have not been informed or involved in planning discussions. Global Witness reports that military-controlled logging operations are ongoing in Bokor and Aural protected areas. (Note 17) The absence of forest rights and responsibilities leaves the community with no authority to protect local forests. A comprehensive policy framework is badly needed to clarify tenure rights and responsibilities over Cambodia's forests.

INDONESIA

HISTORY AND CONTEXT

Indonesia is an immense archipelago extending over 4,500 kilometers from the Indian Ocean to the Pacific. With some 13,000 islands, the nation possesses the world's largest expanse of tropical rain forests, except for Brazil. Approximately two-thirds of the country's population lives on the densely populated island of Java, while the remaining inhabitants are scattered throughout the “Outer Islands” which are characterized by low population densities. Aside from the dominant Javanese population, the peoples of Indonesia present a rich cultural mosaic. One ethnic survey categorized the country into 90 specific ethnic communities (Note 18) though some linguists estimate that there maybe up to 500 separate linguistic communities in Irian Jaya alone. (Note 19) Many of these cultural communities have rich traditions of resource management that they have developed over the centuries, in part in response to the unique environments that they inhabit.

The accelerated destruction of Indonesia's vast forests has created growing national and international concern. (Note 20) Prior to the colonial era, forests covered approximately 90 percent of the land area. Indonesia's forests now cover less than one-half of the country. With deforestation exceeding 1 million hectares yearly, the remaining 90 to 100 million hectares of forest are being destroyed rapidly, resulting in the loss of habitat and economic support for an estimated 30 to 80 million Indonesians.

The current crisis in Indonesian forestry reflects the fundamental failure of land use policies and management practices. The principle of state ownership of forestlands was established in 1870 under the Dutch colonial government and reaffirmed in the 1945 Indonesian Constitution. The Basic Agrarian Law of 1960 and Basic Forestry Law of 1967 strengthened state authority over the nation's forestland, granting policing powers to forestry personnel. Subsequent legislation further curtailed the forest rights of local people's. In 1990, a regulation was passed restricting the claims of local institutions over the allocation of customary lands for timber plantations and other commercial uses. While customary community rights and management systems have been significantly eroded over the past 30 years, the Ministry of Forestry has strengthened its hold on nearly three-quarters of Indonesia's land area, around 150 million hectares. Even though it is the legal forest custodian, the operational capacity of the Ministry of Forestry (MOF) to protect public forest resources on the ground is limited. The entire MOF has a staff of approximately 15,000 persons, most of whom work in Jakarta and the provincial capitals. In the field, actual staffing levels are estimated at one forester for every 100,000 to 300,000 hectares of land.

While the MOF has limited staff presence in the field, it holds the authority to grant immense concessions to timber companies, often influenced by powerful political and private sector interests. During the New Order Government (1965-1997), 65 million hectares of forestland were leased to logging companies, representing approximately 55 percent of its forestlands, and over one-third of the national land area. The absence of a legal framework protecting the rights of forest-dependent communities, combined with the rapacious appetite of the global markets and wealthy entrepreneurs, has led to heavy logging, especially in Kalimantan and Sumatra. In late 1994, the Minister of Forests conceded that "the forestry business community still tends to perceive the country's forests as merely something to exploit." (Note 21)
By 1995, the World Bank began to realize that industrial forestry as practiced in Indonesia had greater costs than benefits for the country as a whole. A forestry sector review paper published that year noted that even with very conservative valuations, the monetary cost of existing logging practices and market policies was at least $6 billion annually. (Note 22) The paper, among other things, recommended the “adoption of necessary legislative and regulatory instruments to encourage community participation in forest management and protection.” (Note 23)

RECENT POLICY AND PROGRAM INITIATIVES

While the recent decline in timber and plywood prices tied to the Asian recession has temporarily reduced interest in Indonesian wood industries, forest conversion to palm oil and other estate crops has increased commercial pressures on Indonesia’s natural forests. A recent report by the Center for International Forestry Research (CEFOR) noted that “palm oil is potentially the most important commodity in terms of impact on forest cover.” (Note 24) By 1997, 2.5 million hectares of forest had been converted to palm oil crops with another 1.5 million projected for 1998. With strong global palm oil, cocoa, coffee, cloves, and rubber markets, as well as a collapse in international timber and plywood prices, there is growing pressure to convert forests to plantation crops. Although the International Monetary Fund (IMF) is opposed to land conversion in principle, it has been widely accused of facilitating deforestation by requiring the Indonesian government to remove all restrictions affecting foreign investment in palm oil plantation expansion under point 39 of the $43 billion dollar IMF bailout package. (Note 25)

Since the resignation of President Suharto in May 1998, the Ministry of Forestry has undergone a series of policy reforms and government leaders have begun to reconsider national forestry goals. Populist political leaders are demanding greater recognition for the rights of local communities and a concomitant reduction or elimination of political influence of private sector interests. NGOs, academics, and development agencies are playing an important role in informing and guiding the new forest policy debate, as well as forming new coalitions to advocate for community forestry (see Box 5).

<table>
<thead>
<tr>
<th>Box 5: Coalition Building and CFM Policy Advocacy in Indonesia</th>
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<td>Indonesia has a rich tradition of communal forest management. As modern systems of forest management were introduced over the past century, indigenous forest-use practices received little consideration in new laws, forestry policies, or field operations. The concept of social forestry received its first formal acknowledgement during the World Forestry Congress held in Jakarta in 1978, which focused on the theme “forests for people.” At that time, Indonesia was preoccupied with commercial timber harvesting and senior government planners had little place in their strategies for local systems of management.</td>
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<td>In the early 1980s, a number of community-based forestry pilot projects were initiated on Java, Sulawesi, Kalimantan, and Irian Jaya through university-NGO collaboration and the support of several development agencies. In the 1980s, two Indonesian environmental NGOs, Indonesian Environmental Forum (WALHI) and SKEPHI, began focusing the forest management debate on the role of local communities. With increasing support from international agencies, including the World Bank, GTZ, and USAID, growing pressure was placed on the government to address NGO demands for greater recognition of the forest rights of local communities. Indonesia has also benefited from the presence of the International Center for Agroforestry (ICRAF), the Center for International Forest Research (CIFOR), and USAID’s Natural Resource Management Program, all of which support active community forestry research, policy analysis, and capacity-building initiatives in Indonesia.</td>
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<td>In 1993, the Indonesian Tropical Forest Institute (LATIN) established the Community Forestry Consortium (KPSHK) to promote community-based forest management in Indonesia. KPSHK brought together leading environmental and human rights NGOs in Indonesia. KPSHK worked to document indigenous management systems in East Kalimantan, West Kalimantan, and Lampung, leading to the recognition of a community management System in Krui by the Ministry of Forestry in 1998 (see Krui case study in Part V). The strategy to create national networks of NGOs that could document indigenous management systems was further developed by WALHI when it formed the Participatory Mapping Network (JKPP) in 1996, with representative from 33 NGOs and people's organizations. The group has organized a series of national workshops on land delineation and community-mapping methods.</td>
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<td>Another effective coalition that brings together academic institutions with NGOs and development agencies is the Indonesian Communication Forum for Community Forestry (FKKM). Formed in 1997 with Ford Foundation support, FKKM is promoting forest policy reforms within the Ministry of Forestry and Estate Crops. Recent World Bank sector assessments have drawn heavily on the recommendations of the FKKM. In June 1998, the FKKM convened a national seminar on forest reform in Yogyakarta, Central Java. The participants included 130 academic and NGO representatives, as well as Forest Minister Djamaluddin and other government planners who worked for two days to assess the national forest policy environment.</td>
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<tr>
<td>The group recognized that Indonesia faces a forest crisis and that a revision of the Basic Forestry Law of 1967 was needed. The participants agreed that a new national forest policy should be formulated based on the equal and</td>
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An underlying goal of much of the reform movement in Indonesia is to disentangle the interwoven political and economic relationships that control the forestry sector. (Note 26) New policies demand that concessions obtained through collusion, corruption, and nepotism be revoked and that the maximum concession size be reduced from millions of hectares to 39,000 hectares, with no new forestlands granted for logging. The government has promised to investigate misappropriation of the reforestation fund, hundreds of millions of dollars of which were transferred to friends and relatives, while only 10 percent is estimated to have been used for reforestation (Note 27).

Observers believe the ministry is demonstrating that it will no longer rubber-stamp large corporate initiatives and may even strive to conserve forests. In August 1998, the Minister of Forests and Plantation Crops, Mr. Nasution, revoked a permit for the conversion of 100,000 hectares of rich lowland rain forest in East Kalimantan into a palm oil plantation and reclassified it as conservation forest. The ministry is showing greater concern for rural communities and is also considering reclassifying some of Java's long rotation teak forests, which have been under state corporation management for decades, to provide land to the unemployed. There has also been a marked growth of interest in community-based forest management in the new ministry.

While the Ministry of Forests and Plantation Crops explores ways to respond to the needs of forest-dependent peoples and eliminate the crony capitalism that has characterized past forest management practices, Indonesian government leaders are under immense pressure to attract foreign investment. William Sundarlin, a forest policy analyst with CIFOR, notes that "the principal threats to the forest and forest-dwelling people are coming from outside the forest sector proper, so forest policy reform alone may not adequately address the challenge" (Note 28). Indonesian planners are caught between the need to generate foreign exchange to service huge loans by attracting outside investors with guarantees of low-cost resource access and the need to respond to the long-neglected rights of forest-dependent peoples by acknowledging their claims to public forestlands. In many areas these strategies are at odds.

In the Outer Islands, government forestlands cover 90 percent of the territory; consequently, millions of dependent families are extremely vulnerable to physical and economic dislocation by logging, mining, and estate crop concessions. (Note 29) The Ministry of Forestry and Estate Crops recently noted that the members of the Suharto family still control 4.5 million hectares of forest and plantation land under long-term concessions. (Note 30) The question Indonesia's leaders now face is whether they possess the political commitment, given prevailing economic conditions, to formally recognize the forest and land tenure rights of the nation's rural people's through comprehensive new laws and programs.

Indonesia's forests are also threatened as old systems of political control lose authority and are replaced by new leaders and power centers. Without a new framework to replace the one imposed by the New Order and with a lack of law enforcement, increasing encroachment into national parks and accelerated illegal logging may be the result. A recent CIFOR study concludes that analysts may have underestimated the effects of the current power vacuum on illegal forest exploitation. (Note 31) Peluso's study of forest management in Java found that during times of political instability forests suffered greater damage from illegal logging, encroachment, and fires, often by forest-dependent peoples who had been economically marginalized by state domination of forest resources. (Note 32)

Until forest users acquire clear authority over these natural resources through policies that provide them with the tenurial security to manage them sustainably, the forests will remain highly vulnerable during periods of political instability. While there is growing political pressure to recognize community management, in recent months the Ministry of Forests and Estate Crops has been more inclined to experiment with modern organizations such as cooperatives than to directly address how to engage indigenous people's institutions and customary systems of tenure and management.

LAOS
HISTORY AND CONTEXT

Laos is a landlocked, predominantly mountainous nation in the interior of mainland Southeast Asia. (Note 33) The forests of Laos provide critical watershed services to Thailand, Cambodia, and Vietnam. They also provide a habitat for a diverse plant and animal species, as well as varied ethnic groups that have lived in the region for thousands of years. In 1940, evergreen and monsoon forests covered 70 percent of Laos, or about 17 million hectares. Estimates regarding current forest cover vary, but it is clear that substantial deforestation has occurred in recent decades. In 1989, the National Forest Inventory, supported by the Swedish International Development Cooperation Agency (SIDA), determined that 47 percent of the country retained forest cover, while the GTZ Forest Cover Monitoring Project calculated natural forest area at 40 percent four years later in 1993.

The population of Laos is nearly 5 million, 90 percent of which is heavily dependent on natural resources for their survival. The majority of the population are lowland Lao (Lao Lum, 55 percent). In addition, there are some 40 ethnic groups who are broadly divided between the Lao Theung, or midland Lao (30 percent), and the Lao Sung, or highland Lao (15 percent). (Note 34) Midland Lao tribes include the Khmu and Htin, while highland Lao comprise the Hmong, Akha, and other groups. The lowland Lao practice largely rainfed-bunded rice agriculture on permanent fields whereas the upland ethnic minority groups are predominantly swidden cultivators whose long rotation fallow cycle systems vary widely. In most communities, forest dependence is high, both for subsistence goods and for NTFPs that provide a source of cash. Although resource use systems are diverse, a reflection of Laos's many ethnic communities, it is estimated that one-third to one-half of the country's families are engaged in some form of shifting cultivation.

Because of its physical isolation and decades of political instability, Laos has remained relatively remote and thus its natural forests are in better condition than those of neighboring countries. Laos has a modest government infrastructure centered in Vientiane, with presence at the provincial and district levels. With an extremely limited tax base, this rugged nation has little money to invest in developing and sustaining a village governmental structure. Instead, many communities retain considerable autonomy and rely on their indigenous institutions for local governance and resource management. Innovative village forestry policies and programs in Laos attest to this. The FINNIDA/World Bank FOMACOP project document emphasizes that while "all Lao forests belong to the national community. Knowing its staffing and other resource limitations that keep it from properly and sustainably managing the forests, the state is promoting village forestry." (Note 35)

Forests have been a critical source of revenue for the Lao PDR government, generating 35 to 45 percent of export earnings in recent years. In the late 1980s, timber production reached 4 million cubic meters annually. While selective felling systems are followed, logging is frequently poorly controlled, with high levels of wastage and much damage occurring during extraction. The Asian recession has created a number of further problems for the forestry sector in Laos. In 1997, regional market demands for timber began to decline. By late 1998, the country had 200,000 cubic meters of timber that it could not sell rotting in log yards. While quotas have been allocated to provincial governments for felling in 1998-99, the central government has ordered the provinces to cease logging operations until sales have been confirmed.

Box 6: The Non-Timber Forest Products (NTFP) Project

The Non-Timber Forest Products (NTFP) Project has been active in Lao PDR since 1995. With funding support from the Netherlands Government, the NTFP project is implemented by the Lao National Agriculture and Forestry Research Institute (NAFRI) and The World Conservation Union (IUCN). The NTFP project develops models of integrated rural development and nature conservation based on the sustainable use of NTFP's.

Three field teams have undertaken action-research in twelve pilot villages in three provinces: Oudomxay, Salavan and Champasak. These teams engage forest user groups in trials of domestication, sustainable harvesting, community-based forest management, and the processing and marketing of NTFP's. Successful models are being expanded to other districts and provinces through an outreach training program. The project also provides policy support to the Lao Government.

Typical project outputs are:

- Field and technical reports describing tests of NTFP use models
- Feasibility studies on specific NTFP's
- Market system studies
With a decline in timber prices, profits from the timber industry are failing off sharply. In 1996, before the Asian economic crisis began, logs sold at $130 to $140 per cubic meter and the government then extracted a royalty of around $50 per cubic meter after sale. By November 1998, the same quality timber was trading as low as $50 per cubic meter, which hardly covered the logging and transportation costs that average $30 per cubic meter. (Note 36) As the market collapses, demand is strongest only for the highest-grade commercial dipterocarp species, which results in what is known as "high grading" of the forest. Since the species with high market value are the key components of the forest canopy, their removal will undermine the forest structure.

It is estimated that swidden cultivators in Laos open between 300,000 to 600,000 hectares of land each year, and that 20 to 30 percent of all forestland may be involved in long rotation agriculture under cycles of 5 to 15 years. (Note 37) Researchers in Laos have determined that it is important to distinguish between two categories of shifting cultivators. Traditional swiddening communities practice sustainable long rotation agriculture and possess land rights that are recognized by their own members as well as neighboring communities. By contrast, transitional shifting cultivators are often landless farmers who leave their lowland villages and enter upland areas in the wake of logging operations. They often have no rights in the area under either customary or formal law and frequently lack local knowledge of their new environment and how to manage it. This distinction has only begun to affect the perspective of policy makers.

In the 1970s, Laos adopted a strategy to resettle shifting cultivators and nearly 20,000 families moved during the decade. This approach was later terminated because it was costly and ineffectual; many families simply returned to their old homes. Relocation is still happening, however, in areas where dams are being developed. The 1986 Fourth Party Congress formulated a plan to restrict "slash and burn agriculture" and promote "fixed cultivate/occupation" for some 277,000 families of shifting farmers. However, the plan was never implemented. (Note 38) The Tropical Forestry Action Plan also targeted shifting cultivators as a major forestry problem, suggesting plantation forestry projects to reduce pressure on the land.
While the Lao PDR Government still intends to reduce swidden cultivation by 20 to 30 percent by the year 2020, policy concerning upland and highland shifting cultivators appears to be changing gradually during the 1990s, reflecting a greater acceptance of the land use practices of forest residents. An innovative forest and land allocation process was approved in decrees made in 1992 and 1994 and later elaborated in the Forest Law of 1997. This policy recognizes the customary systems of forest management and indigenous tenure arrangements, formalizing them through community discussions with local government officials and the preparation of a village land use map.

Of the four Mekong River nations, Laos is the only one that has a clear policy supporting community management of forests: the Village Forestry Law. The implementation of this policy has received substantial support from international development agencies. The Lao-Swedish Forestry Program and the FINNIDA/World Bank FOMACOP projects both finance land-and forest-use planning projects in a number of districts, and provide a team of expatriate advisers tied to the Department of Forestry. The World Conservation Union (IUCN) supports projects that involve communities around protected areas, including in-depth studies of non-timber forest products (NTFPs) (see Box 6).

**RECENT POLICY AND PROGRAM INITIATIVES**

The national goal is to complete agricultural and forestland allocation exercises in protected areas and sensitive watersheds in Laos by the end of the year 2000. By mid-1996, 1,520 villages had participated in mapping exercises. Government planners and expatriate advisers see land allocation as a way to build the tax base and generate revenue. There are indications that many villagers are eager to gain clearer title to their agricultural lands, as well as see village lands more precisely and formally delineated. While village forest planning exercises are generally conducted on small budgets within narrow time frames, they appear to result in greater clarity between neighboring communities.

In the southern province of Champasak, land-use planning began in March 1996. Mr. Bounsoun, First Deputy of the Champasak District, reported that he and his staff had completed all 93 villages by May 1998. District officials worked with community leaders in each village to register individual household farm plots and map village forestlands, classifying them as production, reserve, or protected areas. The district chief reported that his staff largely documented existing family and community boundaries, preparing large painted maps at a scale of 1:25,000 for each village. Once the government teams have mapped the land, a village Community Land Use Management Committee of five to seven members is formed. It is not clear how these committees are functioning and no training or follow-up assistance is planned in non-project areas.
Despite the limitations of village forest and land planning activities, interviews with some villagers indicate that even the rough demarcation of village forest boundaries generates a greater sense of security among communities. In the village of Ban Saming, for example, the nai ban (village leader) noted that in the process of mapping the village forestlands, the community was able to resolve a land dispute with a neighboring village. He also felt the land planning exercise had strengthened the community's ability to resist outside private sector efforts to capture their forest resources and stated:

> It is good that it is clear that this is our forest area and outsiders can't come and cut the forest. We were worried about outsiders putting pressure on government to let them cut trees in our area. The businessmen would come from Pakse asking about commercially valuable species in our area. (Note 39)

While formal allocation of forestlands to communities is only a preliminary step and needs to be followed-up with ongoing institutional and technical support programs, it is an important starting point. Laos, unlike Vietnam and Cambodia, has a community forest management policy that is clearly defined and also is regarded as a national priority. While there are many problems facing the land and forest allocation initiative in Laos, the fundamental commitment to transferring formal management authority to community groups through a boundary-mapping process is significant. This process recognizes traditional communal groupings and local land-use practices in an attempt to respond to resource conflicts and enhance village rights. Many foreign development projects include land and forest use-planning components. The new national initiatives to establish a network of protected areas that are now under way with support from the World Conservation Union and other organizations all stress community involvement. Yet, while policies requiring the engagement of villagers in conservation activities are emerging, putting these programs into action poses many challenges, as reflected in the case study presented in Part V.

The World Bank/Finland-Forest Management and Conservation Program (FOMACOP), the Lao-Swedish Forestry Project (LSFP), and the World Conservation Union (IUCN) projects have been very influential in guiding Lao PDR village forestry policies and programs. While these programs are well-articulated approaches to joint forest management and village forestry, they are generally area-specific, target-driven, and time-bound strategies that limit their capacity to shape policy and facilitate operational transitions over the long term. Nonetheless, development agency's village forestry projects have attempted to emphasize the role of communities in forest management, often against interests within and without government, to retain forest resources under direct state control and to facilitate leasing to industrial corporations.

FOMACOP requires that participating communities form village forestry associations (VFAs), in order to manage forests in partnership with the government. FOMACOP promotes partnerships between VFAs and government with an emphasis on commercial timber production. Under the FOMACOP program, VFAs are expected to take responsibility for logging, forest inventories, managing planning, and marketing and to begin producing logs within two years of project initiation. FOMACOP assumes that industrial logging is an appropriate long-term management strategy for communities in Laos, though similar projects in the Philippines have encountered serious problems, including the capturing of benefits by local government representatives and village elites, as well as over-exploitation of the timber stands.

Many communities continue to depend on long rotation agriculture and hunting and gathering within natural forest environments, and commercial timber extraction may negatively impact primary systems of subsistence. One study of eight villages in Laos found that 121 different forest products and animals were gathered and hunted and that commercial logging operations resulted in dramatic reductions in wild animal populations, loss of collection areas, blocking of forest paths, and the drying up of streams and rivers. (Note 40) Indigenous resource management systems are oriented very differently from large-scale commercial operations, in that they are not driven by principles of profit maximization within relatively short time frames. Given the short time frame of the FINNIDA/World Bank-funded FOMACOP project, it may be difficult to reconcile resource use strategies with such different goals, technologies, and management needs.

Laos, like other Southeast Asian countries, is seeking ways to mesh indigenous village forest management practices with national government administrative structures and economic development strategies. In the context of land and forest planning, new policies and programs appear to be helpful in supporting communities and recognizing traditional tenure arrangements. However, large projects that promote commercial timber extraction can come into conflict with indigenous approaches to management. Competing interests from the private sector and the government's need for foreign investment pose an ongoing threat to the country's progressive village forestry policies, and some planners contend that government should retain unilateral control of state forestlands, especially those with valuable timber and other natural resources. Planners and development workers who support forestland devolution to local communities currently in progress will need to continue to advocate for its implementation.
PHILIPPINES

HISTORY AND CONTEXT

The Philippines is an archipelago with over 7,000 islands, the largest being Luzon to the north and Mindanao in the south, which constitute 68 percent of the land area. Most islands in the chain have mountainous interiors rising from 1,000 to 2,500 meters above sea level. This topography supports diverse forest ecosystems, as well as causing violent hydrological patterns that can promote severe erosion if forest cover is removed. Lowland coastal plains are narrow, even on the larger islands they rarely extend more than 15 kilometers inland. The Philippines possesses approximately 150 cultural communities that can be broadly divided into those that are mainstream, sea-based, or upland cultures. Mainstream peoples include dominant groups like the Ilokano, Tagalog, and Cebuano communities that populate lowland agriculture plains and many urban centers. Sea-based peoples, often Islamic, reside in coastal areas, particularly in western Mindanao and the Sulu archipelago of the southern Philippines. Most upland communities are the indigenous forest peoples of the Philippines, with over 100 distinctive ethno-linguistic groups present throughout the country. (Note 41) While upland communities often hold marginal positions within the national political and economic scene, they have become key actors in community-based forest management programs emerging over the past decade, as well as the potential beneficiaries of new policies that recognize ancestral domain claims to upland forests.

Over the past 15 years, the Philippines has been a leader in Southeast Asia in formulating innovative community forestry policy and programs. (Note 42) Through a variety of tenure mechanisms, including individual, community, and indigenous people's stewardship agreements, millions of hectares of designated public forestlands have been placed under local management. But despite the combined efforts of many committed government planners, NGOs, development agency staff, and university-based researchers, progress in transferring stewardship rights to millions of upland residents is threatened by a changing political environment and outside economic interests. Formally engaging poor upland communities in sustainable natural resource management is a critical step in stabilizing the Philippines' degrading watersheds.

In 1900, forests covered 70 percent of the Philippines; a century later, the nation is one of the most severely deforested countries in Southeast Asia. The destruction of the Philippine forest is even more tragic considering the human and ecological impact to 2 million plant species and over 100 diverse cultures. Deforestation from agricultural land clearing, mining, and commercial logging has resulted in degraded watersheds, massive soil erosion, and depletion of soils and nutrients, silted waterways, and people driven from their forest homes and deprived of their dignity.

After steady loss of forest throughout the era of American colonial rule, deforestation was accelerated under the Marcos government with the expansion of commercial logging and the extension of estate crops. In 1960, approximately 45 percent of the country possessed forest cover. By 1970, the forested area had declined to 34 percent, falling to 27 percent in 1980 and then 22 percent by 1987 shortly after the end of the Marcos administration. By the late 1980s, 24 of the 34 islands that had been densely forested at the beginning of the century had less than 10 percent forest cover. Most of the remaining natural forest is secondary growth or high-elevation mossy forest. Only 800,000 hectares of dipterocarp primary forest remain, largely at elevations of 500-1000 meters, representing less than 3 percent of total land area. (Note 43)

Deforestation in the Philippines and the displacement of millions of upland residents has been linked to government corruption and policy failures. The exploitative logging practices of concessionaires set an example of unsustainable resource use for millions of poor migrants who followed logging roads into the uplands. The financial returns from logging were concentrated in the hands of a small group of elite families. This exacerbated the Problem of unequal distribution of income, still one of the greatest structural problems faced by the Philippines. Between 1972 and 1988, the Philippine logging industry is estimated to have generated US $43 billion from the cutting of nearly 9 million hectares of forest. Much of the money flowed into foreign bank accounts. (Note 44)

The Philippine government has used timber license agreements (TLAs) to grant concessionaires the right to cut trees on public forestlands. Typically, TLA concessions range from in 40,000 to 60,000 hectares, though President Marcos granted his friends concessions of more than 100,000 hectares. Records show that timber concessions rose from 5.5 million hectares in 1960 to more than 11 million hectares in the 1970s, covering more than one-third of the total land area of the Philippines. In 1969, there were 58 timber licensees with "special permits" to cut down trees, by 1976 the number of concessionaires dramatically increased to 476. (Note 45) The biased granting of TLAs and other timber licenses in recent decades to elite Filipino families and foreign investors has resulted in the dislocation of indigenous peoples and other upland dwellers. TLAs have been used by the government officials as an instrument of control; to help friends, to reward loyal supporters,
to purchase political favors, and to buy off rebels.

RECENT POLICY AND PROGRAM INITIATIVES

Until the mid-1980s, the Philippine government emphasized natural resource extraction as the primary vehicle for development and there was little corresponding recognition of the socio-cultural and ecological value of the forests. By 1985, the indigenous upland population of 5.3 million had absorbed an additional 12.2 million migrants, 6.5 million of whom had settled on public forestlands. An early government response to the growing poverty and upland deforestation occurred in 1982 when the integrated social forestry program was established.

When Cory Aquino replaced Ferdinand Marcos as president in 1986 in the wake of the Peoples’ Power movement, public policy began emphasizing the protection of the remaining forests and the promotion of the welfare of upland peoples. The 1987 Constitution explicitly recognized the importance of the environment and the rights of indigenous peoples:

The State shall protect and promote the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.

—Article II, Section 16

The state shall recognize, respect, and protect the rights of indigenous cultural communities to preserve and develop their cultures, traditions, and institutions. It shall consider these rights in the formulation of national plans and policies.

—Article XIV, Section 17

To implement these new constitutional provisions the Aquino government established the Department of Natural Resources (DENR) and started the Integrated Social Forestry (ISF) program. In 1990, the principle of indigenous peoples' rights was adopted by recognizing their ancestral lands and domains. The new Local Government Code devolved some DENR functions to local governments, including the authority to involve communities formally in watershed management. In the same year, the first Certificates of Ancestral Land Claims (CADCs) were issued. In 1991, a ban on logging in old growth forests was instituted. All these measures dramatically shifted upland resource control back to forest-dependent communities after decades of manipulation by the Marcos system of crony capitalism, although 40 logging concessions continued to operate.

President Ramos, elected in 1992, continued to support the people-oriented programs initiated by Cory Aquino and to expand them during his term in office while encouraging private sector investment. The Ramos administration formalized guidelines for the transfer of the DENR functions to local government, signed the National Integrated Protected Areas System Act (NIPAS), operationalized the Certificates of Ancestral Domain Claim (CADCs), and revised the guidelines for the national community forestry program. The Social Reform Agenda (SRA) was launched in 1994 and the first CADCs were issued. In 1996, a nationally integrated Community Based Forest Management (CBFM) program was formulated with specific guidelines that included community mapping. The Philippines Working Group, a policy action group that was formed in 1994, has supported these innovative CBFM strategies (see Box 7). Community mapping methods were developed to allow villagers and local government representatives to work together to clearly define territorial boundaries for forest management areas. Based on mapping exercises, community resource management plans could then be developed.

By 1997, 1 million hectares of public forestlands had devolved to indigenous communities through CADCs. The Indigenous Peoples’ Rights Act (IPRA) gave indigenous communities title to ancestral domain and land claims. By the end of the Ramos term, with 2.5 million hectares under CADC, a people-centered approach was gaining strength. The Aquino and Ramos administrations' strategy for stabilizing the forest ecosystem, as well as addressing equity issues, recognized that communities that are dependent on forests are best positioned to protect them. The World Bank and the Asian Development Bank played a limited role in supporting CBFM programs as most of their resources had been invested in reforestation schemes. Reforestation initiatives like the Industrial Forestry Management Agreement (IFMA) of the 1990s later proved to be costly endeavors with limited impact. Under these schemes communities were contracted to reforestlands, though long-term rights to timber were limited and primary benefits were largely in the form of wage labor.

Box 7: The Philippine Working Group
The Philippine Working Group (PWG) was formed during a meeting of the Asia Forest Network (AFN) in 1994. The purpose of the PWG is to analyze the country's upland management needs and develop policy and programmatic recommendations for government planners and development agencies in a continuous, sustained, and systematic manner. The PWG is made up of individuals from the Department of the Environment and Natural Resources (DENR) personnel, government policy units, NGOs, development agencies, and university research institutions. The PWG's diverse composition supports an exchange of views and cross-fertilization of ideas between government and non-government professionals. Each member of PWG is there in his or her own individual capacity as a professional rather than as representatives of their respective agencies or institutions. This encourages much greater freedom in discussions and allows members greater flexibility in raising and analyzing problems. PWG members are well versed in government policies and possess extensive experience with communities and field programs.

Over the past five years, the PWG has gained credibility with government agencies, including the DENR and with funding agencies. The objective of the PWG is to identify and understand the wide variation in local socio-political contexts and determine how government forest management programs can gain flexibility to respond to community interests and initiatives and varied forest conditions. To illuminate this diversity, the PWG visits communities in various parts of the country to gain exposure at the field level and to study different operational approaches to community resource management. The PWG prepares carefully for each site visit. A month before the group goes to the site one member of the team spends several days interviewing local people in the area. A site map and briefing report is also prepared for working group members. Arrangements are made with the communities concerned, assisting organizations, local government units, and the DENR to prepare the schedule, objectives, necessary logistics and activities of the PWG visit.

The PWG begins each field trip with a visit to distant settlements (sitios) near the forest moving on to neighboring villages (barangays), and finally to meetings with municipal and provincial government officials and the DENR. Each PWG field visit usually lasts three days. Through this sequence of meetings, the PWG builds a composite Picture regarding the issues, problems, and opportunities present in the site. Over the Past five years, the PWG has visited more than 20 sites around the country. The PWG seeks to capture the voices and views of local stakeholders and bring them to the attention of senior planners and officials.

The Institute of Environmental Science for Social Change (ESSC) has facilitated the operations of the PWG since it was established, Providing a continual flow of reports and Publications to keep People Updated. These publications include "Philippine Culture and Ecosystems," "Resource Conflict and Cultural Management in the Southern Sierra Madre," "Mindoro in the Balance" and "AFNews." The PWG has provided the DENR with a series of recommendations for improving the national community forestry Policies and programs, many of which were adopted by the DENR. Of special significance was the adoption of community mapping as a tool for integrating the perspective of local communities into CBFM agreements. ESSC designed and field-tested participatory mapping tools in a number of watersheds throughout the Country. Based on community trials, the methodology was formalized in a field manual, which was formally accepted as the national guidelines for CBFM mapping by the DENR. Subsequently, DENR staff has been trained in the use of these tools. The methods manual is available from ESSC, Malina.

Although logging and mining concessions continued to operate throughout the Aquino and Ramos administrations, these governments brought a greater attention to environmental issues and the rights of upland peoples. The policies and priorities of the Department of Environment and Natural Resources (DENR) under the Estrada administration are not yet clear. Will it continue the transition to greater community involvement in upland management championed by Aquino and Ramos or will it revert to the policies of the Marcos era? By mid-1999, community forest management Programs that had expanded under Aquino and Ramos were placed on hold. A growing debate within government is questioning whether the community orientation inhibited foreign investment and development.

While progress has been dramatic in establishing community-based forest management as a national strategy, at the beginning of 1999, there were still 1.4 million hectares under TLAs (some inactive) and over 500,000 hectares under Plantations. The Estrada government is currently discussing the promotion of timber corridors in the southern island of Mindanao that would cover 500,000 hectares. Many NGOs and POs are concerned that such a policy will threaten secondary forests and community livelihood. While some planners believe massive reforestation programs will provide an attractive incentive for foreign investors, this strategy has not been effective in responding to the environmental and economic problems of recent decades in the upland regions. Reforestation may help reduce erosion and increase infiltration, but past programs have shown tree survival rates of only around 30 percent, with limited benefit to communities. The new timber corridor program allows the right to cut "understocked" forests, providing logging opportunities that will further degrade the environment. By contrast, natural regeneration through community watershed protection has proven to be far more cost effective in restoring forest cover.

The 1995 Mining Act, passed during the Ramos administration in order to attract foreign investment, also
generates concern among community forestry advocates. In recent months, the Estrada government has received a flood of mining applications, mostly for open pit extraction within remaining forest reserves. Under the act, mining companies hold rights to tree cutting and water resources as well as rights of easement to the area. Given the domestic and international pressure to generate foreign exchange, there is a danger that policies protecting the environment and upland peoples approved during the Aquino and Ramos administrations will revert to those favoring resource control by outside interests. During the Marcos era, those policies resulted in unsustainable resource use and social unrest. The growing interest in mining and industrial reforestation may signal a change in priorities that stress more foreign investment and less community resource management. Part V, will present case studies from upland communities in the Pantaran Mountains that show how forest-dependent peoples have benefited from programs that recognize their ancestral domain and describe the continued threat they face from outside interests eager to exploit their natural resources.

THAILAND

HISTORY AND CONTEXT

Thailand stretches almost to China in the north and to Malaysia in the south, containing a wide range of natural ecosystems and cultures. In addition to the dominant Thai population of the central Chao Phraya River basin, the country also possesses Lao speakers in its northeast, as well as citizens influenced by the Malay culture of the south. For centuries, hill tribes have moved through the mountain ranges of northern Thailand, including the Hmong, Yao, Akha, Lisu, Karen, and others. Each cultural community has its own approach to forest management.

Thailand, like its mainland Southeast Asian neighbors, was once heavily forested (Note 46). In 1953, it is estimated that 60 percent of the country possessed dense natural forest cover. Commercial timber exploitation, combined with land clearing by both local and migrant farmers, reduced forest cover by one-half over the next thirty years (Note 47). Between 1961 and 1991, Thailand's population rose from 23 million to 58 million and in some regions like the northeast, forests were viewed as a frontier area, with "open access" resources capable of providing farmland for rural families. By 1995, the official estimate of forest area was 26 percent of the land but conservation groups maintain that it may be as low as 18 percent, if plantations are excluded.

In 1989, public concern over disastrous flooding and landslides in southern Thailand resulted in a national logging ban. This ban marked an important policy shift towards greater emphasis on the involvement of communities in forest management activities (Note 48). Thailand's domestic timber supplies are increasingly dependent on imported logs from Burma, Laos and Cambodia. Despite the logging ban and rising imports, Thai forests continue to disappear. Within Thailand, illegal logging in national parks and conservation areas continues, sometimes facilitated by local elite's, corrupt government officials, and politicians. While some communities are strategically positioned to protect the remaining resources from outside interests, others are hired as illegal loggers by timber smugglers. The Salween logging scandal of early 1998 dramatically illustrate these issues and placed advocates of stronger community forest management policies in a national debate with those supporting strict conservation and even community exclusion from some protected areas. (Note 49)

Over the past 30 years, a number of policies supported by the Ministry of Interior, the military, and the RFD legitimized the expansion of communities into forest reserves, especially in northeastern Thailand. These included the establishment in 1975 of the National Forestland Management Division (NFLMD) within the RFD to administer the Forest Village Program and the national Forestland Allotment (STK) Project. To support these programs the Thai cabinet gave amnesty to all illegal residents in reserved forest. These initiatives hoped to limit forestland degradation, restrict illegal encroachment on reserved forestlands, consolidate residents into permanent settlements and further national internal security. Some analysts feel these programs succeeded in slowing encroachment on reserved forestlands by imposing limits on the amount of land households could claim for agriculture. (Note 50)

Subsequent policies, however, have been inconsistent regarding community rights in natural forest areas. Neither the National Forest Policy of 1985 nor the Land Reform Act included any specific provisions to transfer forest management rights and responsibilities to communities. In recent years, some RFD staff, university researchers, and NGO leaders have developed and lobbied for a national community forestry bill that would include protected areas. Participants have been challenged to create a policy that is responsive to the different social and physical environments existing in Thailand and an ongoing national debate regarding the need for forest conservation and the economic requirements of upland communities.

Thailand has a diverse and rich tradition of household and communal natural resource management systems. Shifting demographics, as well as political and socioeconomic changes are leading to the formation of new
community-based forest management groups as well. A national inventory conducted by the Royal Forest Department in 1992 documented over 12,000 rural groups protecting forest patches ranging in size from as few as 1 hectare to as many as 4,000 hectares. (Note 51)

In the south, forestlands are frequently under the ownership of private individuals. Community management is commonly found around mangrove forests along the coast. In the past, the RFD has given concessions for commercial fuelwood extraction of mangroves to communities. More recently, some coastal communities began establishing management organizations to better protect mangroves from conversion to aquaculture and other commercial threats. Forest management conflicts in the south have also occurred, in some cases when entire islands have been gazetted as protected areas, displacing ethnic fishing communities.

In the northeast, at least four types of community forests can be observed. Community-protected forests are often established to halt encroachment by illegal loggers. Forest and water management rules and activities may be organized through local government bodies, hamlet leaders, traditional village councils, or other institutions to prevent nearby timber concessions from logging community forests. Wat (monastery) forests are restricted zones where plants and animals are protected. While a monastic community manages the forest, villagers may use it for recreation. In Thailand religious leaders play an important role in the debate over environmental management at both the village and national levels. In addition to temple forests, there are also other cultural forests, which are protected by the community as sacred places; these forest patches are small and scattered. Forests located along riverbanks are often under communal management. Community swamp and wetland forests are often protected as breeding grounds for fish, frogs, crabs, and other high-protein foods, and as sources of bamboo, timber, fuelwood, and other non-timber forest products. A number of communities that manage wetland forests have come into conflict with paper pulp companies and other industries considered responsible for polluting their water resources. With forests covering little more than 10 percent of the land area in northeast Thailand, competition for these resources has intensified, often bringing the RFD, private companies, and rural communities into conflict.

The north possesses a much larger proportion of forest than other regions of Thailand, calculated at 55 percent in 1995. Much of the land that retains good forest cover is located in the uplands and highlands. Many communities, aided by their isolation, were able to protect their forests against lowland logging interests during the timber boom of the 1960s and 1970s. Ethnic minority groups in the north use the forest in different ways, and each group has a variety of use systems and categories. Some forests are strictly protected, including many funeral and spirit groves. Other forested areas are reserved for watershed protection, especially woodlands lying in the immediate proximity of springs and water sources. Long-term rotational systems of agriculture, such as that practiced by the Karen, regulate the opening of new forests to ensure that secondary forests are established on fallow fields. Over the last 10 years there has been increasing tension between the ethnic minorities that inhabit these watersheds and national planners and environmentalists seeking to establish new protected areas and remove communities from within park boundaries. The question of the rights of ethnic minorities to the land and forests of the upland watersheds of northern Thailand continues to be hotly debated.

**RECENT POLICY AND PROGRAM INITIATIVES**

As deforestation has progressed, Thailand has seen a rapid decline in its rich biodiversity and loss of forest habitat. Environmental NGOs, sometimes referred to as the "dark green" in Thailand, have strong support within segments of the RFD, academic institutions, and Bangkok's middle class. Environmental groups have effectively lobbied for more of the nation's forests to be designated as national parks and sanctuaries. The policy commitment to conservation is reflected in the 1993 Forestry Master Plan mandating 42 national parks and 31 wildlife sanctuaries to be added to the 119 existing conservation areas. Current estimates indicate that the creation of new protected areas would require 3.3 million hectares. (Note 52)

Since much of the area for the new national parks and sanctuaries is located in the north, the implications for the upland communities are immense. Up to 53 percent of the forestland in the north could be declared off limits for hunting, agriculture, and other traditional resource uses. The proposed expansion of the protected area systems will enclose the land of approximately 2,700 villages. Most of these inhabitants are ethnic minority farmers, many of whom lack Thai citizenship. This policy trend is in conflict with other RFD departments that are promoting community forest management, as well as with the Ministry of Interior, where participation of communities in forest management activities is being encouraged under decentralized governance programs.

Past problems with resettlement schemes have also raised questions regarding the wisdom, practicality, and political acceptability of projects that dislocate upland villages. During the early 1990s, some upland communities under threat of resettlement began organizing into more effective, multi-village networks to resist government programs. In 1994, stemming from concerns over problems with resettlement projects and growing
local and media opposition, Thai policy makers postponed a number of community relocation projects. In Part V, the Thai case study of the Northern Farmers Network illustrates how some upland communities are building federations to better exchange information and allow their views to be represented in dialogues with government and other stakeholder groups, including urban-based, environmental NGOs.

In the north, many upland and highland communities remain uncertain regarding their tenure status. Ethnic minority communities feel pressure from one another, from lowland Thai migrants moving upland, from government conservation programs, and from private sector investors. Many upland and highland farmers are moving away from shifting cultivation, because of the shrinking availability of land, government interference, and new opportunities to grow commercial crops presented by access to capital and new markets. Decades of project experiments with intensive vegetable, fruit, and cut-flower cultivation, promoted through government and non-governmental projects, have contributed to a gradual transition to sedentary farming, with more marginal fallow swidden lands now regenerating as secondary forest. Some communities point to their commitment to adaptive management as proof of their desire to work with government and to remain in their upland communities.

Formerly, low population density and periodic movement characterized the hill groups in northern Thailand. As a consequence, many ethnic minority communities did not develop well-defined territorial boundaries. It is only in the past 20 or 30 years that there has become an urgent need to establish more elaborate spatial resource use agreements and specialized systems of forest and water management that allow communities to better regulate their own resource use and foster better relations with outsiders. Since the 1980s, a great deal of activity has focused on CFM initiatives in the north, in terms of both local dialogues and government and NGO-sponsored programs. Many new community forest management organizations have been established with help from the Royal Forest Department, local universities, development project staff, and NGOs. The Regional Community Forestry Training Center (RECOFTC) is one such organization that has been active not only in Thailand, but throughout the Southeast Asia region (see Box 8).

Box 8: Regional Community Forestry Training Center

Established in 1987, the Regional Community Forestry Training Center (RECOFTC) aims to support the growing awareness that community participation in resource management assists in protecting forest area as well as furthering rural development. The main objective of RECOFTC is to organize, provide, facilitate, and otherwise support training for community forestry initiatives throughout the Asia-Pacific region. RECOFTC activities include:

- Training courses on community forestry
- Supporting national community forestry development by providing training and technical support to national forestry institutes, NGOs and community forestry projects and programs
- Supporting community forestry development in the region by hosting regional and international seminars and workshops on community forestry-related topics

Throughout the region, participatory forest management is increasingly being recognized as the primary way to manage Asia’s remaining forest area sustainably, efficiently, and equitably. RECOFTC has responded to this demand by actively supporting in-country training programs and community forestry projects and programs. As the facilitator for the Forest, Trees and People Program (FTPP) of FAO, RECOFTC actively supports the activities, learning, and sharing of experiences between 25 institutions in 10 Asian countries. The overall objective is to strengthen partnerships between key institutions in Asia to enhance their capacity to develop and adapt effective approaches and strategies to in-country support of participatory forest management. Partnerships focus on education and training, participatory processes, and policy development. RECOFTC also holds seminars and workshops on community forestry-related topics. In addition, RECOFTC provides information and communications support by publishing a quarterly newsletter that documents and publishes case studies, reports, and training materials. The documentation center at RECOFTC houses more than 4,000 books, reports and studies, videos, and other multi-media material.

Local leaders have played a large role in stimulating community interest in addressing resource disputes, often relying on traditional institutions and communication channels. Local initiatives focus on negotiating specific resource use rules, rights, and agreements among a group of neighboring villages, including the banning of logging, regulating hunting, placing tighter controls on burning, and prohibiting chain saws. Inter-village meetings have helped strengthen customary practices of conflict resolution and clarifying territorial boundaries. Communities whose values included forest protection but who lacked the ability to enforce them are now developing both rules and enforcement mechanisms. Other communities are learning collective bargaining and
adaptive management skills in the effort to prove to government that they are responsible resource stewards and should be allowed to continue living in their forests even after they are designated protected areas. According to Su-ri-ya StriPraSert, a Karen leader from Ban Pon, a village in Doi Intanon National Park:

The forest is our life. If the forest is burnt, only bamboo will grow and the water springs will dry up. This is why we protect the forest. Outsiders always blame us, so we have to make outsiders understand that we are the conservers of the forest and not its destroyers. (Note 53)

Informal community forest management groups, however, are still not officially recognized and communities remain insecure regarding their future. In March 1998, 56 upland farmers, all from ethnic minorities, were illegally arrested on charges of setting forest fires during the drought (Note 54). According to the Deputy Minister of Agriculture, "the fires were caused by hill tribe people." But the Ethnic Studies Network at Chiang Mai University contends that "Pang Daeng was targeted because its residents are predominantly hill tribe minorities—easy and frequent scapegoats because they are poor, powerless and looked down upon by the lowland Thai" (Note 55). Fundamental disagreements within Thai society concerning the rights of ethnic minorities have slowed progress in developing a clear forest management policy in the north. Communities require greater security of tenure to enable them to be effective forest custodians.

Social forestry programs supporting community involvement in Thai forest management have been evolving since the 1970s, but it is only in the past decade that a clear legal framework for community forestry has begun to develop. Formulated through the efforts of the Royal Forestry Department (RFD), university researchers, and NGO members, the draft Community Forest Bill has been under discussion by a series of national governments since the early 1990s. After nearly a decade of debate, the law is now awaiting ratification by the current Chaun II Cabinet. Since the proposed CFM law was first placed before the government policy makers, the need for a formal legal basis for community resource management has become more acute.

While CFM legislation has not yet been approved, the concept has gained legal support under the new constitution and decentralization laws. The 1992 Tambon Administration Organization Act (TAO) strengthens the role of village governments in forest use and planning decision making. In the 1997 Constitution, Article 45 vests traditional communities with the right and duty to manage resources where they live. Unfortunately, without enabling CFM laws, current conservation policies are at odds with the community rights provisions listed in the Constitution. A recent agreement regarding the legal definition of community forests may help break the policy stalemate. The new definition extends RFD classifications to acknowledge traditional use forest categories, including indigenous types of forest conservation (Note 56). The CFM bill will formally recognize communities as resource managers, even within protected areas.

New constitutional and legal provisions are creating an opening for the RFD to develop and strengthen collaborative partnerships with village (Tambon) government and local communities. These partnerships are being forged through four pilot projects: community forests within buffer zones, small-scale forest plantations for Tambon councils, forest and forest protection, and service support for forest management activities (Note 57). Under these pilot projects, the RFD is working with NGOs and Tambon government partners. It is anticipated that when the Community Forestry Bill is passed, it will provide a sufficient legal basis to move beyond temporary pilot projects into an enduring national program.

VIETNAM

HISTORY AND CONTEXT

Vietnam rises from its long and narrow eastern coastal plain into the Annamite mountain chain that forms its natural border with Laos and Cambodia. Three-quarters of the country is hilly or mountainous, climbing to over 3000 meters at its highest point. Once densely forested, it is now left with only 10 percent closed tropical forest. Vietnam has many indigenous systems of forest management. (Note 58) While the Kinh make up 87 percent of the population, other cultural communities are often the dominant groups in many upland areas. Out of 53 ethnic minorities, 52 live in the uplands. Forty-six of the ethnic groups utilize a variety of shifting cultivation systems, requiring a careful linking of agriculture and forest resource use practices. Each ethnic community possesses its own distinctive system of institutions, leaders, rules, and rights for managing forest and agricultural lands and water resources.

In his study of the Hmong and Dzao, Nguyen Van Thang found that:

Each community had its own sphere of territory, including land used as the place of residence
Forestlands were subdivided into those used for cultivation, those under exploitation for timber, and those off limits to exploitation, including upper slopes and ridge crests. The community prohibited or limited the exploitation of land or forests within its territory by persons from the outside—especially the utilization of virgin land covered by primary forests (Note 60). Within the forest, households often held specific rights to certain precious woods, trees with bees’ nests, and naturally growing herbs.

The government nationalized large areas of land in the midland and upland regions of northern Vietnam in the late 1950s and early ‘60s. Forestland with a slope above 25 degrees was designated for forestry and put under the management of State Forest Enterprises. Control over the management of forest resources was centralized. In the highlands, state forest management was part of a larger attempt to transform the traditional use of rural resources and the underlying social structure. As in the lowlands, people in the highlands formed agricultural producer cooperatives. Under the cooperative, the land was farmed collectively and the products shared proportionate to the expenditure of labor. The cooperatives were relatively free from state interventions in sharp contrast to the centralized control over the forests. (Note 61) By 1968, nine out of ten agricultural households in the northern mountains belonged to cooperatives. (Note 62)

Until the early 1990s, Vietnamese forest policy was based on direct state involvement in the management, exploitation, processing, and distribution of the country’s forest resources in order to achieve their rational utilization. The transformation of social structures and resource use also included massive programs of resettlement and sedentarization. Between the late 1960s and early ‘90s, North Vietnam and then the unified country of Vietnam resettled around 5 million people from lowland provinces into the uplands. (Note 63) The programs were designed to increase cultivation and to exploit the natural resources in areas seen as under utilized. The Fixed Cultivation and Sedentarization Program had the objective of providing swidden farmers with permanent settlements either in the same area or in more fertile, more accessible, non-catchment areas at lower altitudes. By 1990, the program included 1.9 million highland people. (Note 64) In addition, the government envisions state forest and agricultural enterprises as playing important roles as indicators of regional development in the highlands.

This dramatic shift in Vietnam’s approach to forest management brought about a drastic decline in the country’s forest resources. In 1991, the Ministry of Forestry classified 10 out of 19 million hectares of designated forestland as barren because they were not covered with trees. (Note 65) During the 1980s, the annual loss of forest was reported as 110,000 hectares for the whole country. (Note 66) Though efforts at reforestation have been impressive, plantations are much poorer than the natural forest they have replaced. In recent years, even government reports have linked the striking loss of forest resources to direct state forest management.

State policy often placed local users of forest resources in direct conflict with state managers. By excluding local residents from access to forestland, the policy separated them from a resource that was a crucial source of cash and subsistence goods. It deterred people from using the forest through a sophisticated legal system based on fines and an expanding state agency focused on forest protection. Local people came to see that the forest was being administered by the forest protection units and by a state that gave them no rights over forest resources. Likewise, state officials became convinced that local people were a major threat to forest protection.

The state, however, was often not able to enforce its legal restrictions. The people continued using the forests for subsistence and to generate income. Particularly in remote areas, where lack of infrastructure hampered state management, local people often managed the forests. Ethnic minority groups practiced a diverse range of swidden cultivation systems with various consequences for the forest. In some places, local users protected watershed forests, funeral forests, and forests with cultural and human-ecological significance. However, restricting local rights over forestlands provided little incentive for communities to conserve these resources. Not surprisingly, the Ministry of Forestry noted in 1991 that many areas experienced a "continuing expansion of agriculture into such forestland that is of reasonable fertility and accessibility.” (Note 67)

**RECENT POLICY AND PROGRAM INITIATIVES**

In 1991, the Tropical Forestry Action Plan, the Forest Resources Protection and Development Act, and the first National Forest Policy introduced a new framework for forest management. The new policies designated private households to replace state forest enterprises as new units for forest management, following the lead of agricultural reforms that had transferred land management from collectives to private households during the 1980s. With appropriate guidance by the state, local people appeared on the way to becoming keepers of the forest.
The 1993 Land Law gave local inhabitants extensive use rights over agricultural and forestry land. The law stipulates that long-term usufruct rights should, for most lands, be issued to non-state entities, including individual households, groups of households, and organizations. The use rights include permission to exchange, transfer, lease, mortgage, and pass on land for inheritance. The state is restricted in its power to delineate the broad purpose for which an allocated plot is to be used and its ability to recover land is narrowly defined. Although the 1993 Land Law opened up possibilities for community forestry at the state level by allowing the allocation of forestland to households, more recent stipulations on forest in critical watershed areas have narrowed these possibilities. Recent policies have limited the role of local people as forest custodians, granting them restricted rights over forest resources.

A decree issued in 1994 specifies that use rights granted for forestland should extend over a period of 50 years, with the proviso that households use it for agroforestry. The management of forest zoned for production purposes has generally followed a farm-household model. Farm-households receive long-term rights for barren land and land with planted forest located outside critical watershed areas. The farm-household model has produced remarkable results in meeting and even surpassing reforestation targets, primarily in areas where families receive support through national and international programs and where there is good market access. Extensive forest plantations were established on hills in the Vietnamese mid-lands, once a symbol of land degradation and unproductive land Use. (Note 68)

Recent policies promulgated to engage people as forest managers in the highlands have been less successful. While some highland families have been designated as "custodians" of state forests, the state has retained control over important management decisions. Further, most forestland in the highlands has not been allocated to households. A decree passed in January 1995 empowers local forest administrators to contract former state forest enterprise employees and farmers to protect state forests. The contracts include detailed regulations regarding the use of allotted land. Residents with protection contracts have very limited rights to forest resources, and are permitted only to harvest only minor forest products.

In Son La province in northwestern Vietnam, the government has classified nearly three-quarters of the land area as forest territory, even though only one-tenth actually retains forest cover. Two of every three hectares of forestland are further designated as protected or special use forest. According to current policy, this implies that local communities are restricted to use only about one-half of the entire province. As is apparent in the case of Son La province presented in Part V, the land use systems of the Tai, Hmong, and other local inhabitants are often in conflict with these policies.

Not only have protection contracts become the most common means of involving local people in forest management in the highlands, but the government has also instituted a set of related policies to enforce the contracts. Logging bans, heavy fines, and the expanding powers of enforcement agencies have increased state control over forest resources. Having instituted several partial logging bans since 1992, by the year 2000 the government plans to close all natural forest to exploitation for 15 years. In 1996, a decree established a penalty code for violations against protection and management regulations. Another directive made the heads of the provincial people's committees directly responsible for violations committed within their territory. The Forest Protection Department has been turned into a vertically integrated organization with sub-units at provincial and district levels.

Government funds for implementing the national policy have also increasingly concentrated on forest protection. Since 1993, the Decree 327 Program has accounted for a large share of central government transfer payments to provinces and districts, or approximately US$ 50-70 million per year. While the Decree 327 Program was originally designed to "re-green" barren land in Vietnam's highlands through an integrated rural development approach, a 1995 decree shifted the program focus to forest protection in critical watershed areas. Today, activities most commonly include the protection of natural forest and of forestland for natural regeneration, as well as some tree plantations. In the case of forest protection, farmers receive small cash payments based on the size of the protected area and are granted the right to limited harvesting of dry wood and other minor products from the forest. If they plant trees, they receive free fertilizer and a substantial cash payment for their labor; their share in the final timber harvest, however, is unclear.

Implementing resource management and development strategies based on local community knowledge and interests could strengthen government efforts to stabilize upland watersheds. However, there are as yet no policies that recognize customary resource use practices or institutions. Communities frequently have an intimate knowledge of their physical environment; soils, flora, fauna, and microclimatic conditions; and, they are also aware of communication channels and market conditions. Their decisions to invest in resource development may reflect careful assessments of opportunities and risks. Rather than imposing national projects that may not reflect local situations, especially in ethnic minority areas, government can enhance their effectiveness by responding to community initiatives and local decisions.
Despite new government policies and programs to reallocate land and guide resource use according to state priorities, communities continue to play a major role in decision making at the local level. A national working group supported through a collaborative project between the Mekong River Commission and the German development agency, GTZ, is working to help clarify forest management policy and programs that respond more directly to the needs of upland communities (see Box 9). The case study of Tai and Hmong communities in the Da River watershed of northwest Vietnam presented in Part V illustrates the way indigenous practices persist, and adapt in response to growing populations, increasing market access, and government policies and programs.

**Box 9: Sustainable Management of Resources in the Lower Mekong Basin (SMR)**

The SMR project aims to support the Mekong River Commission (MRC), its member states and relevant partners in the region "to develop, promote, and implement strategies in participatory natural resource management (PNRM)." To achieve this, the project focuses on the following key areas:

- Description, analysis of framework conditions for the uplands of the Lower Mekong Basin
- Facilitation, moderation, and support for regular exchange of experience in PNRM of uplands with professionals and decision-makers
- Establishment of pilot sites to test promising approaches in PNRM of uplands and validation by sector stakeholders
- Establishment of regional and national partnerships to design and jointly manage an Internet-based Information System on Natural Resource Management
- Elaboration of preconditions for a continuous consolidation and further improvement of the existing database regarding forest cover of the Lower Mekong Basin and provision of demand-oriented monitoring and information products

The project implementation strategy is based on a dual approach of regional and nationally based activities. These are initiated and supported in partnerships with national government agencies, NGOs and international projects and programs active in the region. The regional component aims to assist the MRC-S in fulfilling its role as a regional networking and information dissemination body for the lessons learnt and promising approaches related to PNRM in the upper watershed - including the development of appropriate policy frameworks.

From 1995 to 1998, the project developed a pilot site in Dak Lak province, Vietnam. Its activities have focused on assisting communities and provincial authorities to develop participatory approaches for the current land use planning and land allocation program under way in Vietnam. In addition, the project developed an Internet-based Natural Resource Management Information System (<www.mekonginfo.org>) that will enable the MRC and professionals in the region to access and exchange information about PNRM and related subjects in five languages. A network of national focal points has been established in the four member states of the MRC: Cambodia, Lao PDR, Thailand and Vietnam.

**SUMMARY**

At the end of World War II, most of Southeast Asia began to free itself from centuries of colonial rule. To a large extent these countries adopted the forest policy legacy of their colonial administrators who viewed forestland primarily as "state forest domain." From the 1950s through the 1980s, government planners considered natural forests as a resource for national development. Logging booms moved from one country to another to feed growing international markets. As population increased, demands to turn natural forests into agricultural land also grew. By the 1990s, many countries had badly depleted their natural forests. Environmental problems stemming from unsustainable logging, such as flooding, siltation, and microclimatic changes threatened downstream farming areas and urban centers. In Thailand and the Philippines, logging bans were implemented. Indonesia imposed restrictions on whole log exports, while Vietnam reduced allocations for tree cutting in an attempt to stabilize upland watersheds.

Although many Southeast Asia governments moved to control the extractive policies of the latter part of the twentieth century, they found that their forestry agencies had limited capacity to regulate industrial forestry or enforce conservation programs. As forestry institutions failed to sustain the national forest domain, millions of forest-dependent communities struggled to retain control over their ancestral lands, or gain greater tenure
security on forestlands they had cleared for agriculture. Increasingly, attention turned towards ways to engage forest peoples as partners in managing the public forest domain. Some nations, like the Philippines and Laos, began formulating programs and policies to extend recognition to forest-dependent communities, establishing national initiatives to map community forestlands. Other countries, like Thailand and Indonesia, continued to debate the merits of formalizing community forestry through national policies.

With the Asia-wide economic recession now entering its third year, national planners remain attracted to opportunities to gain critical foreign investment by selling off natural resources, although the abundance that characterized the region's forests fifty years ago has been seriously diminished. Effective policies that support community stewardship of natural forests are slowly evolving in Southeast Asia, but they continue to face opposition from the competing needs of the private sector, and sometimes even from conservation interests. Regional efforts to share learning regarding effective CFM strategies are supported by groups like the Asia Forest Network who organize regional workshops, sponsor exchanges, and publish periodic reports on national development affecting forest communities (see Box 10).

<table>
<thead>
<tr>
<th>Box 10: Asia Forest Network</th>
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<td>The Asia Forest Network (AFN) has provided a framework for regional exchanges on the topic of community involvement in forest management (CIFM) since its founding in 1991 and gained international recognition for its role in assisting rural communities to protect and regenerate tropical forest ecosystems in Asia. With over 700 members worldwide, AFN provides a framework for exchange and interaction among a diverse group of professionals working in the field of sustainable forest management. AFN coordinates activities in Southeast Asia through its regional office in Manila. AFN serves to promote and disseminate research findings within countries and across nations, by working through four broad thematic areas:</td>
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<tr>
<td>- National, Regional, and Global Policy Dialogues</td>
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<td>- Mediation Processes and Methods for Enhancing Tenure Security</td>
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<td>- Field Research</td>
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<td>- Communications</td>
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<td>AFN has conducted seven Asia-wide regional meetings over the past decade that have helped build a common understanding regarding the need and approach to decentralizing and devolving management systems in conservation and production forest environments. AFN has helped support national working groups on CIFM in Indonesia, Philippines, India, Cambodia, Laos, and Vietnam. AFN has also organized a series of topical seminars on mapping tools and mediation mechanisms for public land reform. In addition, AFN participates in many global forums including the United Nations sponsored Intergovernmental Forum on Forests. AFN maintains an active communications program with a website and a semi-annual newsletter for its members. In addition, AFN has published numerous national and regional reports, articles, working papers, and a three-volume set of operational manuals to assist in community mapping.</td>
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The case studies presented in Part V illustrate the tremendous strides communities are making both in their ability to manage natural resources, and in the way they face the serious problems of gaining formal control of the environments on which their lives depend. The transition to participatory management of upland forests on a regional scale will only accelerate when a broader group of stakeholders sees that community-based forest management is compatible with both sustainable economic development and environmental conservation.

Notes
2 Steven R. Brechin, *Planting Trees in the Developing World: A Sociology of International Organizations*
This section was developed with contributions from Kol Vathana, Doug Henderson, Chea Sam Ang, and other members of the Working Group on Community Forestry in Phnom Penh.


Ibid. p. 19.

Ibid. p. 1.

For additional information, see Doug Henderson, "Community Forestry in Cambodia," May 1998 (unpublished manuscript).


Ibid. p. 3.

Ibid. p.2.


Personal communication from staff of the Summer Institute of Linguistics, Jayapura, Irian Jaya.

This section is based on contributions from Claudia D'Andrea, Jeff Campbell, and Muayat Mushi, William Sundartin, and the editor.


25 Ibid. p. 3.

26 Sundarlin, p. 8.

27 Ibid. p. 9

28 Ibid. p. 10.

29 Douglas, p. 9.


33 Information regarding Laos was contributed by Manfred Fischer, Khamphay Manivong, Sounthone Ketphanh, Joost Foppes, Marko Katila, Carl Mossberg, and Peter Jones.

34 Department of Forestry, "Draft-National Village Forestry Program," (Vientiane: Ministry of Agriculture and Forestry, 1999).


36 Personal communication from Carl Mossberg, Senior Forestry Adviser for the Lao-Swedish Forestry Project, November 17, 1998.


39 Interview by Mark Poffenberger with the Village Headman of Ban Saming, Champasak Province, November 21, 1999.


41 This information is drawn from the map entitled "Philippine Culture and Ecosystems," (Manila: Environmental Science for Social Change, Inc., 1998), which provides an excellent visual presentation of the ethnic distribution in the Philippines.

42 The original text of this review of CFM policy in the Philippines was contributed by Peter Walpole.

43 Mark Poffenberger and Betsy McGeen (eds.) *Upland Philippine Communities: Guardians of the Final Forest Frontier*, (Berkeley: Center for Southeast Asia Studies, 1993).

45 Ibid.

46 This review of Thai forest policy was compiled by Karen Lawrence with the support of Anan Kanchanapan.


48 Komon Pragtong, "Recent Decentralisation Plans of the Royal Forest Department and their Implications for Forest Management in Thailand," in International Seminar on Decentralisation and Devolution of Forest Management in Asia and the Pacific (Davao, Philippines, Dec. 1998).

49 A series of articles was published in the Bangkok Post and the Nation from January 4, 1997 to February 18, 1998. Writers for the Bangkok Post; Subin Khuenkaew, and Cheewin Sattha. Writers for The Nation; Preecha Sa-atdsom, Kamol Sukin, Pennapa Hongthong, Nittayapom Muangmit and Sorrayuth Suthassanachinda.


52 Chusak Wittayapak, "Political Ecology of the Expansion of Protected Areas in Northern Thailand" in 6th International Conference on Thai Studies, Chiang Mai, Thailand, October 1996.


55 Ibid. p.7.


60 Ibid. p. 114.


INTRODUCTION

This section presents a collection of six case studies of community involvement in forest management in insular and mainland Southeast Asian countries. Each case provides a brief background on the historical relationship of the village with neighboring forestlands, typical use practices and technologies, and indigenous social mechanisms for management.

These case studies reflect the rich cultural diversity of the region and the many ways human societies in Southeast Asia have succeeded in developing largely sustainable and relatively self-sufficient systems of natural resource use over many generations. Each resource use system is specialized to take advantage of the unique natural characteristics and features of the habitat in which it is situated. Institutions, rules, and values are formed to guide resource management, adapting to emerging needs and changing conditions. While some systems are comparatively simple, other systems are rather complex in terms of technologies, regulatory systems, and the bodies of knowledge and beliefs that guide them. The experiences of the communities presented indicate that there is an ongoing discussion among members concerning ways to best utilize and protect the forest, and how to avoid overexploitation by themselves, their neighbors, and outside commercial interests.

The studies also describe how community-based systems of forest management are often highly dynamic, responding to changes occurring locally, nationally, regionally, and even globally. Expanding community populations and migrant influx place continual pressure to use forestlands for agricultural purposes. Competition with outside private sector interests for forests and other natural resources has grown in intensity in all the case study areas over the past fifty years. In the Cambodian case study for example, industrial logging operations come into direct conflict with local communities, while the Indonesia case study shows how communities in Krui are beleaguered by the palm oil concessions. National and foreign investors are assessing the mineral and timber resources of the Pantaron Mountain case study areas, even as those areas are currently being registered as ancestral domain. At the same time, case communities from Thailand, Laos, and Vietnam are confronting an array of government restrictions on their upland use as new national parks are formed and watershed regulations...
In response to outside interests, communities are organizing and adapting their behavior in various ways. Through inter-village meetings, coordinated actions, and by networking, discussion of resource management is a frequent topic of debate in many of our study areas. Local government officials, agency foresters, NGO staff, researchers, development agency personnel are all playing different supportive roles in assisting communities to respond to these threats. Land use planning is either ongoing or has been implemented in all six of the case study areas. Most significantly, in four of the six, the central or provincial government has given some recognition to indigenous community land rights and institutions, including their claims over forests that had previously been designated as “state” land. Each case concludes with a section highlighting some of the important learning experiences and how these are reflected within broader national and regional issues.

YA POEY COMMUNE, RATANAKIRI PROVINCE, CAMBODIA

In the mid-1990s, recognizing the continuing heavy dependence of rural communities on natural forest resources, a study of non-timber forest products (NTFPs) was conducted in Ratanakiri Province in northeastern Cambodia. The initial goal of this project, funded by international NGOs, Oxfam, and Novib, was to explore ways to ensure the livelihoods of forest-dependent peoples and address resource conflicts. Over the past five years, vast forest tracts in Cambodia have been leased to private concessionaires for logging and plantation establishment. Leased areas frequently encroach on local village land. The project staff sought to facilitate dialogue between communities and government and to use existing legislation to enhance land and forest tenure security of the highland, ethnic minority inhabitants of the semi-evergreen forestlands. (Note 1)

The participating communities have agreed upon rules for forest protection and use, which they submitted to local government. While short of formal legal recognition, this case provides an important precedent for development of a new national legal framework that potentially could empower communities as forest managers. At the same time, this important test case faces threats from the same industrial logging policies that operate in other parts of the country. In March 1998, the forest department issued a logging permit to Hero, a Taiwanese timber exporter that includes forestlands already under Ya Poey community management. This action by the government has created concern among the local communities (see Box 11).

The Forest Conservation Association of Upper Ya Poey Commune is one of several pilot projects in Cambodia that are attempting to vest indigenous communities with greater government recognition over their rights to communally held forestlands. The project involves 5,000 hectares of forest under the authority of six local villages.

Box 11: Ya Poey Villagers Seek Help to Protect Their Forest from Logging

Six villagers from Poey Commune in Ratanakiri Province recently came to the NTFP office in Ban Lung asking for help to protect their forest from logging. They said that logging activities in their forest had begun again. Trucks had been coming to the area for some time and the villagers had already cut trees to block the road and push them back, but recently the road construction had headed into their own forest. They “dreamed” that they should stop the equipment and had sacrificed a pig, but the equipment still came. They were worried that the spirits would get angry and that more pigs and chickens would have to be sacrificed.

They had come to the NTFP project staff to ask for help in setting up an official community forest that would protect their forest from logging. They learned that their forest is now part of a large 60,000 hectare “legal” concession granted by the government in 1998 to Hero Taiwan, Ltd., an international timber company. An official from the provincial forestry office was asked to come and talk with the villagers. He showed them the official document from the government allowing the company to log in their forests; he showed them the large red official stamp of approval. He explained that it was too late to organize a community forest because the land had already been given to Hero. They asked if they would receive any benefits from the company; they were told that the company has already paid the government for the concession and if the villagers wanted any benefits they would have to ask the company. They were told that the concession is the law; all the land belongs to the government, not the villagers. They asked why they had not been informed of the activities in their area, and about protecting other resources such as fish and malva nuts. They asked how many trees would be cut and if they could monitor the activities of the company when it logged. They were told that the forestry department would monitor the concession activities and that they, the villagers, did not have the expertise to understand the technical aspects of forestry.

At the end of the three-hour meeting, the villagers expressed their concern that the logging would make the spirits angry and the people sick. They were worried about the big trees being cut and the effect that would have on rain and how cutting the big trees would damage the small trees that they used for house building. The forest official came up with only one solution for the villagers: look outside the concession area; maybe the villagers could organize a traditional use community forest somewhere else.

Box 11

| Six villagers from Poey Commune in Ratanakiri Province recently came to the NTFP office in Ban Lung asking for help to protect their forest from logging. They said that logging activities in their forest had begun again. Trucks had been coming to the area for some time and the villagers had already cut trees to block the road and push them back, but recently the road construction had headed into their own forest. They “dreamed” that they should stop the equipment and had sacrificed a pig, but the equipment still came. They were worried that the spirits would get angry and that more pigs and chickens would have to be sacrificed.

They had come to the NTFP project staff to ask for help in setting up an official community forest that would protect their forest from logging. They learned that their forest is now part of a large 60,000 hectare “legal” concession granted by the government in 1998 to Hero Taiwan, Ltd., an international timber company. An official from the provincial forestry office was asked to come and talk with the villagers. He showed them the official document from the government allowing the company to log in their forests; he showed them the large red official stamp of approval. He explained that it was too late to organize a community forest because the land had already been given to Hero. They asked if they would receive any benefits from the company; they were told that the company has already paid the government for the concession and if the villagers wanted any benefits they would have to ask the company. They were told that the concession is the law; all the land belongs to the government, not the villagers. They asked why they had not been informed of the activities in their area, and about protecting other resources such as fish and malva nuts. They asked how many trees would be cut and if they could monitor the activities of the company when it logged. They were told that the forestry department would monitor the concession activities and that they, the villagers, did not have the expertise to understand the technical aspects of forestry.

At the end of the three-hour meeting, the villagers expressed their concern that the logging would make the spirits angry and the people sick. They were worried about the big trees being cut and the effect that would have on rain and how cutting the big trees would damage the small trees that they used for house building. The forest official came up with only one solution for the villagers: look outside the concession area; maybe the villagers could organize a traditional use community forest somewhere else. |
HISTORY AND CONTEXT

Ratanakiri Province is located in remote, northeast Cambodia, sharing borders with Laos and Vietnam. Twelve thousand square kilometers, most of which is dense forest, is sparsely populated by 85,000 inhabitants including 7 highland minority groups. Fifteen percent of the population resides in towns and another 15 percent are low-land rice farmers. The remaining 70 percent are swidden cultivators whose ancestors have resided in small forest communities for centuries. Since the 1960s, the development of rubber plantations and other estate crops has been jeopardizing the environment and the indigenous peoples of the region.

Recent attempts by government and outside investors to take control of the forests in Ratanakiri and other provinces has accelerated since the elections of 1993, when the country was opened for investment. Since then, lowland Khmer have been moving into the area in increasing numbers, buying land along roads and near markets. In 1997, over a dozen coffee, rubber, cashew and other estate crop concessions of 100 to 20,000 hectares were granted “pending” approval by the provincial government. In that same year, the Macro-Panin logging concession, owned by Indonesian investors, gained exploitation rights to 1.2 million hectares of forestland. This concession was later cancelled, but is now being reallocated, with 60,000 hectares recently granted to Hero Taiwan, Ltd., an international timber company.

Close to one-half of the province’s 1.16 million hectares has been set aside as royally decreed protected area. In addition, six dams are planned for the province and, in some cases, flooded areas could stretch across nearly two-thirds of the province from Von sai to the Vietnamese border. Aside from generating hydropower, the government hopes to create irrigated paddy land that will allow communities to shift from swidden to wet rice agriculture (see Figure 6). Local people are unhappy about the recent “land grab” by commercial companies which threatens their ancestral domain and the remaining long rotation farmland.

TRADITIONAL TENURE SYSTEMS

For the ethnic minority communities of Ratanakiri Province, the forest environment is the basis for their spiritual and physical existence. Local spirits inhabit some forests, with taboos that forbid cutting to effectively ensure conservation. One section of O Taberr Forest contains a sacred grove of bora bamboo and villagers believe that “breaking off a piece of the bamboo or talking and joking loudly in the vicinity of the grove can result in illness or death.” (Note 2) On Ranchean Mountain, communities tell of forest spirits who are angered by the presence of guns.
and who forbid the hunting of gibbon, large deer or gaur, and tigers. According to the elders, when Kres villagers cleared the forest on the mountain in 1985 to open plots of chamkar, the spirits were angered and many villagers died. Regarding these old growth forests, one Brou elder noted, "these trees were born in the time of the gods," and so to cut in these areas could anger the spirits and cause illness or death. (Note 3)

While highland communities of Ratanakiri generally regard the forests as a communal resource, they often distinguish between the nearby regenerating forests and swidden fields that are part of the long agricultural rotation system, and the more distant forests with older growth. All chamkar, whether it be swidden fields currently in use or fallow, regenerating forest, is considered general domain of the village, as are most spirit and cemetery forests. Rainfed paddy lands are increasingly viewed as private property due to the claims of lowland Khmer settlers. Communities are careful not to open a chamkar inside the boundaries of another village that can lead not only to conflict with neighbors, but may displease the spirits as well.

As population and resource use pressures grow, village territory is being progressively defined and demarcated to minimize conflict. As one Kralah village headman reports:

> From the past there were no village cultivation boundaries. Each village had its own area for doing chamkar only when one village expanded to meet with the chamkars from another village did we set boundaries. (Note 4)

The more distant forest areas are less clearly delineated and are often shared with other communities. Villages may have different rules and taboos governing the use of shared old growth forests. Nonetheless, the economic dependence on old growth forests is significant. As one villager noted:

> Our village boundaries extend only to our chamkars-that's one-hour's walk-but we support our living in an area much further than that, in the forest beyond our village boundaries. These forests are like our market place-they are where we find wildlife, malva nuts, rattan, and so forth. If a company takes those forests, we'll be dead. (Note 5)

The highland people of Ratanakiri Province are unhappy about social and economic changes threatening their land tenure security. The late Ratanakiri Judge Choeung Pheav, an ethnic Kreung, summarized the problem in an interview in 1995:

> There are many disadvantages at present for the indigenous people. The price of land is increasing, the population is increasing, and investors are coming. Meanwhile the indigenous people need a lot of land to sustain their lifestyle. Therefore if we look clearly at this, lowlanders may take over the land because the ethnic minorities have no land title certificates. The minorities are very worried about this. Unless international organizations think about this problem and how to intervene, the whole traditional land stewardship will collapse ... As far as the government is concerned, unless they see (land title) certificates, it is government land. But according to traditional rights it is the indigenous people's land because that's the way it's always been. (Note 6)

Under current Cambodian land law, rural people can gain control over agricultural land, including both chamkar and old growth, by claiming individual title, forming an association and placing it under communal ownership, or by acquiring a long-term lease. Individual titling is perceived by many to be a lengthy and expensive process. Since most land ownership in Ratanakiri has historically been communal, private land ownership is a relatively new concept, although becoming increasingly common with permanent paddy lands. The privatization of long rotation swiddens, including both active fields and regenerating forest, poses problems, since it would rigidify the allocation of resources within a dynamic demographic and natural environment. It would also break down communal cohesion by disconnecting a major production system from group authority, strengthening the independence of individual households.

While some families see potential to acquire cash by obtaining private land titles, many are concerned about fragmenting the village territory. Interviews with Jarai, Tampuen, and Krueng indicate concern that individual titling of swidden lands would result in the creation of islands of private farmland surrounded by forests open for speculators and concessionaires, leaving no room for gathering and hunting. As one elder noted "If we develop in the so-called 'development way'-each family up to 5 hectares—all the land and forest will be gone. If we develop in the traditional way, there will be forest and land remaining." (Note 7)

**THE FOREST CONSERVATION ASSOCIATION**

In response to the growing threat to communal forests by outside speculators, village elders from Koy Village in Ya Poey Commune began formalizing rules for the use of the communal O Taberr Forest after the election in 1993. The initial regulations were simple: no clearing of communal forest for swidden, forest burning, or felling of large trees. Community elders were concerned, however, that their rules would not be recognized by outsiders.
Several years later the NTFP project, supported through Oxfam and Novib, began working in the area documenting forest product collection practices and use rights. Koy villagers asked them to help find ways to formalize their forest use rules. The project approached neighboring communities and found that the Krueng people of Koy shared O Taberr Forest with the neighboring hamlets of Ta Ngach, Kres, and Kiong. The staff asked village elders if they would be interested in creating a common set of forest use rights and rules and sharing a management area. They agreed to this arrangement and also suggested that Mas and Kancheung villages should be made management partners, since they share the communal forests of Stieng and Phnom Tapieng (see Figure 7).

In February 1997, three representatives from each of the six villages met. Elders from Koy village explained their concern that they could not protect the forest alone. They required authority from the government and the cooperation of their neighbors to guarantee that their need for rattan, wood, and bamboo could be met. Village leaders from Kres noted that they had managed their local forests for generations and wanted to be sure they could continue to sustain them for the future. Kancheung villagers were concerned about animal poaching by Lao hunters. They also reported that forest burning was destroying rattan and that malva nut trees were being cut and damaged during harvesting. At the end of the meeting, the elders agreed to establish the Forest Conservation Association (FCA). After lengthy discussion, the group agreed to adopt a common set of rights, rules, and responsibilities (see Box 12).

**Box 12: Ya Poey Forest Conservation Association: Regulations, Rights and Responsibilities**

**Regulations**

- Burning the forest is forbidden: fine is 50,000 riel ($20) per hectare
- Swidden field clearing is prohibited: fine is 130,000 riel ($52) per hectare and loss of plot. Second offense fine is tripled
- Garden clearing in the forest is forbidden: fine is 200,000 riel ($80) per hectare and loss of garden. Second offenders are turned-over to government
- Commercial logging is prohibited: fine is 40,000 riel ($16) per tree for locals and 120,000 riel ($45) for outsiders
- Mineral exploitation is forbidden unless it is licensed by the Forest Conservation Association and the local government
- Hunting elephants, tigers, bear and gaur is forbidden
- Firearms are not allowed in the forest
The NTFP staff played an important role in the six villages and with the local government by facilitating discussion and providing technical assistance to the villagers to map the boundaries of four conservation and collection forests within the association area. The combined forest territory of the six member villages is now over 5,000 hectares.

**FOREST PRODUCTION AND MANAGEMENT**

Phnom Tapieng Forest is one of four forests managed by the FCA. A careful inventory of this 1,824-hectare semi-evergreen forest indicates that it is highly productive and rich in biodiversity. Close to 200 tree species and over 300 species of flora and saplings have been identified, 60 percent of which are used by local villagers. In a NTFP valuation survey of 40 households, researchers found that the combined value of rattan, firewood, honey, resin, bamboo, nuts, medicinal plants, wildlife, forest foods, and other products was as high as $4,000 per hectare, before calculating environmental services (Note 8) By contrast, the present value of standing timber, based on a 90-year felling cycle, was only $1,700 per hectare. Furthermore, in recent years compensation paid to community members when commercial firms take control of their ancestral forestlands averaged only $36 per hectare.

The survey found that all households rely on forest products for subsistence and cash since only 30 percent of families have a member engaged in wage labor. The study concluded that "NTFP are worth a lot, much more than hitherto thought, and are very important to the poorest sectors of society." (Note 9) Benefits from forest products consumed ranged from $625 to $3,925 per household, averaging around $750 annually. (Note 10) At least over half of the households used their forest product income to purchase tobacco, MSG, salt, clothes, and sandals. A much smaller number of wealthier families purchased medicine from the West, sugar, rice, oil, batteries, and blankets.

Equally important, forests supply the land for long rotation agriculture. Each family requires 6 to 8 hectares, which may be under a rotation of 3 to 30 years depending on soil fertility and land availability. Most swidden, or chamkar, plots are of similar size, usually no more than two hectares; enough to feed the family, but still within the capacity of the household to work the land. Old growth forest is rarely cut, as families prefer using old regenerated chamkar land. Highland people in Cambodia grow a variety of crops in their chamkar including upland dry rice, cassava, taro, sugarcane, maize, sweet potatoes, yams, gourds, beans, peppers, sesame, tobacco, pineapples, egg-plants, tomatoes, pumpkins, and cucumbers. Bananas, mangos, jackfruit, papaya, cashews and other fruit trees are planted around the households and in chamkar after field crop rotations are finished. Recent findings indicate that chamkar farming practices have led to dynamic but stable forest cover in the area over the past fifty years. (Note

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**Rights**

- Tree felling for domestic use is allowed with permission from the
- Forest Conservation Association
- Bamboo, rattan, and other vines can be sustainably harvested by community members for domestic needs, but not for outside sale. Nonresidents may harvest with permission from the association
- Traditional fishing gear, including lines, spears and traps may be used in the forest, except during breeding season
- Community members may hunt small animals for domestic use, but not for outside sale
- Traditional gem mining is allowed, but the Association charges a fee of 500 riels ($0.20) each day for members, and 2,000 riels ($0.80) for outsiders
- All forest products not covered above may be used or sold provided the forest is not harmed and association and government laws are respected

**Responsibilities**

- All village members have the right and responsibility to apprehend or report violations of forest rules to the Forest Conservation Association
- The association is required to report the killing of any large, protected animals; the carcass must be delivered to government authorities

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- Fishing gear is forbidden including electric shock, dragnets, firearms, and poison (including treang fruits and "smelly rock")

Rights

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LESSONS LEARNED

As this case study demonstrates, land speculation by outside private investors, supported by powerful interests in government and the military, has destabilized forest management practices that have demonstrated their long-term sustainability. The recent granting of concessions appears to give little or no consideration to the rights of local and indigenous peoples and the livelihoods and cultural traditions of thousands of families are being jeopardized. The case of Ya Poey identifies a number of important lessons that can assist in clarifying the process of land allocation to avoid unnecessary conflict between stakeholders. These are:

- The formation of multi-village associations can strengthen the position of remote, forest-dependent communities allowing them to reach a stronger consensus among themselves and with local government regarding boundaries, including distinguishing exclusive and shared forest resources and clarifying use rights and regulations.
- Land allocation needs to be made by the government in a transparent way with a thorough review by all interested stakeholders.
- Better lobbying and advocacy in the forestry sector at the national level needs to occur. Despite powerful empirical evidence proving the greater economic value of NTFPs over timber harvests, the government sold logging rights to outside investors.
- Western laws of private property do not reflect the needs and interests of some forest-dependent communities. Land privatization is seen as a threat to communal systems of resource management and makes indigenous people vulnerable to outside land speculators.

Lessons from the FCA resulted in the formulation of a number of recommendations now under government consideration. (Note 12) Some key prescriptions are provided below:

- Government should recognize, endorse, and protect customary rights of indigenous and rural communities to collect and use forest products.
- Government should recognize customary village boundaries and use them for planning and zoning units.
- Government should give formal recognition to communal institutions and their right to communal land tide.
- A provincial "community forestry working group" should be created to screen and make recommendations and review proposals for new community forestry associations before they are reviewed at the national level.
- Government policies should distinguish between forestland under long rotation agriculture and old growth forest used for hunting and gathering. Community forestland should be reserved for the latter.
- A community forestry sub-decree should be passed, formulated with input from indigenous communities, that protects communities from land speculators, safeguards natural forests from con-version to estate crops, and prohibits commercial timber harvesting.

DAMAR FOREST GARDENS, KRUI DISTRICT, INDONESIA

This case study represents only one of many indigenous resource management systems in Indonesia that produce a wide range of goods from forest fruits for home consumption to highly valuable industrial products such as resin, rattan, and latex. The Communication Forum for Community Forestry (FKKM), a coalition of NGOs and academics that came together in the late-1990s, estimates that there are some 18 distinct types of community forest systems managed by ethnic minority groups throughout the archipelago. These mixed forest garden systems, or agroforestry, provide both cash and subsistence needs from non-timber forest products to the communities managing them while also maintaining the ecological structure and functions of the natural forests. While agroforestry systems like the one in Krui are often referred to as indigenous and traditional, they are also dynamic. Village managers are continually experimenting with new techniques and management strategies that affect planting and germinating, as well as different approaches to pruning, thinning, harvesting, processing, and marketing.
Scientific research and institutional coalitions have both played an important role in gaining greater tenure security for Krui communities over their damar forests. Social and ecological studies over the past twenty years have confirmed the high levels of productivity and long-term sustainability of the mixed agroforests of the southern Sumatra coast, not to mention their value as a habitat for biodiversity. Local, national, and international research and environmental action organizations have used this information to build a strong case for government recognition of the rights of traditional forest stewards. Tim Krui, FKKM, and other working groups and coalitions have effectively cooperated and succeeded in influencing the government through joint initiatives and interagency dialogue.

The current political transition in Indonesia provides a new opportunity to broaden the forest policy debate and extend greater authority to traditional adat communities over customary forest territories. While there are still many challenges facing local indigenous agroforesters, the prospects for new protection of these indigenous management systems is encouraging. With government recognition, community forest management allows Indonesia’s forest-dependent peoples to make an invaluable contribution to sustaining the cultural and ecological complexity of the country and maintaining the biological diversity of the forests of Southeast Asia.

HISTORY AND CONTEXT

Along the southern coast of Sumatra, nestled between a protected tropical montane forest and the Indian Ocean, lie the agroforests of Krui. These agroforests are often called kebun damar, or damar forest gardens, referring to an important resin producing tree (Shorea javanica). Damar or Shorea javanica is a species of dipterocarp, the largest family of commercial timber trees in tropical Southeast Asia.

At first glance, the vegetation is indistinguishable from the primary rain forests in the adjacent national park, Bukit Barisan Selatan (see Figure 8). Yet, the lowland forests of Krui are far from wild; rather their structure and composition have been shaped by generations of community stewards. The forest canopy and understory is a complex mix of trees, climbers, herbs, and shrubs grown for centuries by local people for trade and domestic use.

While many types of fruit, wood, fiber, spices, medicinal materials, and other products are harvested for domestic consumption and sale, certain items may be of special importance. In the case of Krui, the damar resin from the Shorea javanica was a major trade good for centuries and, as a consequence, these trees have become a dominant feature of the forest gardens of the region. Beginning in the third century, damar was highly prized by Chinese merchants as the best material for caulking ships. On a visit to southern Sumatra in 1783, an English
Increasing demand for *damar* in the United States and Europe in the second half of the nineteenth century led communities in the Kruí area to begin widespread planting of *Shorea javanica*. (Note 13) By the early 1980s, *damar* production had reached 5,250 metric tons nationwide and today almost one-half of all Indonesian *damar* comes from the forest gardens of Kruí. Eighty percent of all *damar* traded on the world market is produced by smallholder farmers harvesting the resin from extractive agroforest reserves in Indonesia. It is used as an important binder in paints, varnishes, and linoleum products. A few decades ago, the development of synthetic *damar* threatened to crush the market for the natural product but it appears that the natural product remains competitive. In 1987, Indonesian exports of the highest quality *damar* resin, called *mata kucing* ("cat's eye"), were estimated at $4.5 million compared with the total production of forest and non-timber forest products at an estimated $26 million. (Note 14) It continues to fetch a stable price on the international market despite the recent Asian economic crisis.

Raw *damar* from the whole of Kruí is collected, sorted by quality, and then purchased by a series of middlemen from the villages and from the district town of Kruí. *Damar* of lower quality goes to domestic paint and batik factories. Each village usually has 10-20 small traders who purchase *damar* from the farmers and take it to the market. In 1998, a farmer would expect a good harvest of high quality *damar* (based on size and clarity) to yield about 300 kilograms per hectare a month for which he would receive approximately $0.60 per kilogram, or $180 for his harvest. (Note 15)

### TRADITIONAL TENURE SYSTEMS

Families manage the forests under the overarching *adat* (customary) laws and the institutions of the people who inhabit the Kruí area. According to customary tenure systems, the Pesirir people hold forestlands in common under their hereditary lineage groups, or *marga*, which distinguishes the jointly-held forestland from the individually-held rice fields. As with the Katang people in Ban Khamey village in Laos with their yang oil trees, individual families in Kruí could claim tapping rights to individual *damar* trees, if they were the first to begin collecting its produce. At the same time, no family was allowed to claim exclusive rights over virgin forest. Families received permission from the *marga* to open forest patches for fanning, but they were not allowed to plant perennials, except for coffee, pepper, and other relatively short-lived crop (Note 16). If the family ceased to use the land for an extended period of time, the regenerating forest would revert to the stewardship of the community.

As the markets for *damar* expanded, however, opportunities to increase production through the planting of *Shorea javanica*, especially in fallowed fields, grew. Planting *damar* trees required considerable investment in labor and capital, just as in the creation of rice paddy fields, and as a consequence local families wanted the tenurial authority to pass these *damar* gardens to their descendents. Given the changing economic environment, *marga* leaders "formally accepted the removal of the prohibition against planting perennials in the *marga* lands, which boosted the spread of the plantation movement and led to drastic land appropriation activities by individuals in former communal forest domain." (Note 17) Yet, the old tenure system based on communal ownership prevailed in non-planted forests that continued to be held as *hutan marga*, or community forest.

Although *damar* forest gardens have become the property of Kruí families, households do not have *hak milik penuh* (full property rights) over the land as they would in Western law; they are still subject to community or *marga* restrictions. In Kruí, families now hold *hak waris* (hereditary rights) to *damar* gardens allowing them to be passed to their descendents but they are not permitted to transfer the trees or cut them without the approval of the larger extended family. (Note 18) Disputes over *damar* agroforests are subject to arbitration by the *marga*. While there has been a move towards privatization of *damar* gardens in Kruí, common property traditions and Pesirir social values ensure that land and tree use rights remain under the oversight of the extended family and clan, and the larger community. As a result there has been no fragmentation of the forest garden ecosystems in the Kruí area, which would have been likely under Western-style privatization. Many resources within the forest gardens continue to be held as community property, including many fruits, sap from the sugar palms, bamboo, thatching leaves, and other goods. This is especially true of "wild" plants versus those that are "planted." (Note 19)

### FOREST PRODUCTION AND MANAGEMENT

*Damar* forest gardens are often established at the end of the cycle of shifting cultivation, or when there is a sufficiently large opening in the forest canopy. The cycle often begins with the clearing of an old garden or secondary forest since primary forest is rarely opened for swidden farming in Kruí. After clearing the forest, the first crop planted is upland rice. Following the upland rice harvest, a secondary, "intermediary" crop is planted, usually coffee or pepper, and in three to seven years *damar* seedlings are added to the upland field. *Damar* seedlings are germinated from seeds at home and transferred to upland plots. As the *damar* grows, it contributes to a microclimate suitable for coffee production; then, fifteen years after planting, *damar* overtakes coffee, pepper, and other fruiting trees.

This successional forest garden increases in complexity over the years, influenced both by natural ecological
processes and by the planting and selective cutting by community members. As the *damar* reserve matures, it acquires the characteristics of neighboring natural secondary forests. As a multi-tiered canopy develops, herbaceous species decline, resulting in decreasing density of undergrowth. *Damar* trees begin producing after twenty years, yielding resin for about 30 years before dying somewhere between 50 and 60 years of age. Once established, *damar* gardens are not felled on any particular cycle like conventional plantations, but rather trees are individually cut and replaced as needed.

In mature *damar* reserves, *damar* trees that are interspersed with tall fruit trees, like *durian*, dominate the upper canopy. The lower canopy layer comprises shorter fruit bearing trees, like *duku*. Wild plants are allowed to grow, especially those that yield useful products. *Damar* forests resemble natural forests both in structure and in diversity. A recent comparative study of sample plots in primary forests in the area of *damar* agroforests and rubber estates found that there were 230 species in rain forests, 120 in *damar* forests, and only 10 in rubber estates. In rain forest sample sites, 130 bird species were enumerated versus 70 in the *damar* agroforests and 5 in rubber estates. This data indicates that *damar* agroforests have much higher biodiversity than rubber estate possessing over 50 percent of the plants found in neighboring rain forests. (Note 20) Rattans and some woods like *Trema*, *Macaranga*, *Rubiaceae*, *Lauraceae*, and *Sterculiaceae* provide communities with timber, fuelwood, and vines. With the loss of natural lowland and hill dipterocarp forests, *damar* gardens have become an import habitat for endangered mammals such as the Sumatran rhinoceros, the Sumatran goat, tigers, tapir, gibbons, and *siamangs* (monkeys). (Note 21)

Aside from *damar*, household income is greatly enhanced from the sales of fruits from these agroforestry gardens. A recent study from the Krui village of Pahmungan found eleven commercial fruit tree species present in a one hectare mature *damar* agroforest, including *durian* (*Durio zibethinus*), nangka (*Artocarpus heterophyllus*), menteng (*Baccaurea racemosa*), *duku* (*Aglai a dookkoo*), manggis (*Garcinia mangostana*), mangga (*Mangifera indica*), and petai (*Parkia speciosa*). Yearly income per hectare of agroforest was estimated to range between $1200 and $1800 based on a labor investment of 127 person days.

Researchers and silviculturists have been impressed by the success of Krui farmers in establishing *damar* plantations. While Krui farmers are masters at regenerating dipterocarp species, p. ate sector and government reforestation programs have had difficulty re-establishing these valuable hardwoods. The richness of the *damar* reserves in the case of Krui demonstrates that reestablishing dipterocarp forest is not an impossible feat.

Throughout Indonesia, community institutions and *adat* laws continue to play an important role in regulating forest use among village families. Indigenous management systems are typically structured to resolve disputes among members, maintain a degree of equity within the community, and protect the resources for use by future generations. While most of Indonesia's natural forests are legally under the administration of government forestry agencies, millions of hectares of forestland are actively managed by forest-dependent households and communities relying on customary organizations and traditional methods. It is estimated that in the mid-1980s, agroforests under community and household management, like those found in Krui, covered about 3.5 to 4 million hectares in Sumatra (Note 22). They are of great economic significance, supplying 70 percent of Indonesia's total rubber production, 80 percent of its *damar* resins, a large proportion of the clove, cinnamon, nutmeg, coffee, and related tree crop produce, and nearly all of the nation's fruit exports. (Note 23) But because of their commercial value and generally weak tenure position under existing Indonesian land laws, agroforests and forests under de facto household and communal management have been vulnerable to private interests, especially those with political support in Jakarta.

**NEW PRODUCTION AND MANAGEMENT SYSTEMS**

With its valuable and productive forest reserves, Krui has been an attractive region for outsiders for hundreds of years. Yet, encroachment on the communities and resource management systems has increased in recent decades. In the early 1990s, local farmers in Krui became concerned when their 29,000 hectares of *damar* gardens, which are formally located within the State Forestry Zone, were leased to a timber concession. The company threatened to begin logging the 3 million valuable dipterocarp trees planted by Krui villagers. At the same time, oil palm companies, with the support of local government, began encroaching on Krui's agroforests. In 1996, one company clear-cut dozens of hectares of community-planted *damar* on the southern border of Krui. (Note 24)

The boom in international palm oil has sent domestic and foreign investors exploring opportunities for development throughout Indonesia. Nationwide, crude palm oil production rose from 400,000 tons in 1975 to 6 million tons in 1998. With 2.4 million hectares now under oil palm plantations, rapid expansion could result in an additional 3 million hectares converted to oil palm in the next few years (Note 25). According to a recent report:  

*Oil palm and timber plantations may have more negative consequences for local communities than previous logging operations. To some extent communities had managed to co-exist with logging operations but the plantations consume vast areas of land and may displace their traditional activities entirely.* (Note 26)
At present, four corporations control two-thirds of the oil palm area in Indonesia, with much of the new planting taking place on forestlands. Over the past decade, thousands of hectares of pepper gardens, natural forests, damar reserves, and other environments have been converted to palm oil plantations in the Pesisir Selatan, or southern coastal areas of the province.

According to satellite images, the Krui area possesses 54,000 hectares of mature damar agroforest (Note 27). In 1991, a government regional land use plan (TGHK) designated over one-half of the area, 29,000 hectares, as part of the State Forest Zone. In the mid-1990s, community members learned that two large palm oil concessions were being planned for their area, one of 17,000 hectares in the north, and a second of 25,000 hectares to the south. News that damar agroforests were being clear-cut at night and during Friday prayers fueled the anxieties of local inhabitants that their resources were endangered. Indonesian as well as foreign scientists who had studied these remarkable agroforestry systems for several decades were also highly concerned. In response to the growing threat that the indigenous damar agroforestry of Krui might be converted to palm oil estates under corporate control, a coalition of researchers, called Tim Krui was formed in 1994 to help local communities protect their forest gardens. The Tim Krui coalition includes professionals from the Indonesian Tropical Institute (LATIN), the International Centre for Research in Agroforestry (ICRAF), the Ford Foundation, NGOs, and universities.

Tim Krui members worked with villagers to map their damar reserves and helped organize meetings with local and national government representatives. Tim Krui hoped to better inform government planners regarding the sophisticated and effective management system already protecting the area and to gain legal recognition of community rights to the forest, notwithstanding its official designation as a State Forest Zone. A panel discussion was held in June 1997, involving community leaders, Tim Krui members, and Ministry of Forestry officials.

Mr. Djamalludin, then Minister of Forests, took interest in the Krui situation and suggested that it be used as a test case to develop a new community forestry policy. While the minister was reluctant to declassify the forestland, he did push for local control of the forests over the long term. The ministry thus decided to create a Special Management Area designation (known as Kawasan dengan Tujuan Istimewa—KdTl), with technical guidance from ICRAF. The ICRAF team drew on the experience of the Philippines, translating the language of the ancestral domain certification (CADC) into Indonesian for review by ministry officials. A committee worked for six weeks to draft the new terms. Some forest department members resisted formulating a new order while others wished to restrict the size of the special use zone. Ultimately, with the use of satellite imagery, an area of 29,000 hectares was allocated for the new Krui KdTl.

In January 1998, the government declared Krui a new special use zone (KDTI) (Note 28). The new community forestry designation granted Krui communities control of ancestral damar forest reserves under customary adat institutions and laws. KdTl status gives the people of Krui rights to both timber and non-timber forest products. The new legislation is viewed as an important step toward recognizing the ecological and economic benefits from community-managed forests and devolving forest management authority to local people. Provisions of the new classification include:

- Sanctioning a community-based natural resource management system within the State Forest Zone
- Allowing timber harvesting within the State Forest Zone by local residents
- Devolving the management responsibility of State Forestlands to a traditional Masyarakat Hukum Adat (community governing structure)
- Granting forest management rights to the community with no time limit

The challenge faced by the Ministry of Forestry and Estate Crops in the post-Suharto era is to move beyond a few showcase areas to a broad implementation of new CFM policies nationwide. Currently, the KdTl for Krui affects only 10 percent of the damar reserves found in the Pesisir Selatan region of southern Sumatra. Further, the community is still reviewing whether the current terms of their management agreement with the government provide the security they seek. Some community members feel that the boundaries of the State Forest Zone should be outside the area of the damar gardens, and that these resources should not be under the aegis of the Ministry of Forestry. Still, most villagers in the Krui area believe the new agreement is an improvement over previous arrangements.

The Krui case study highlights the rich forest management traditions of Krui and how local villages became some of the first communities in Indonesia to be nationally recognized as forest stewards. Krui’s mixed agroforests and damar reserves play an important role in the protection of biodiversity and serve as a buffer zone to protect Bukit Barisan Selatan National Park. The reserves maintain the hydrology of the upper watersheds of the Barisan Mountains, ensuring that flooding or droughts do not threaten the irrigated rice fields along the coast. While Krui is an important test case in Indonesia, and recent government recognition of traditional management techniques and institutions provides greater tenure security to communities, indigenous agroforest forest management remains threatened, both along the Sumatra coast, as well as throughout Indonesia.
LESSONS LEARNED

Krui is only one of the many diverse and complex indigenous systems of forest management found throughout Indonesia. The case of Krui is important because it is helping government planners and scientists understand the value of traditional agroforestry practices in Indonesia, both in terms of economic productivity as well as proven sustainability. At a time when Indonesia desperately needs stable and productive systems of forest management, indigenous forest garden technologies and stewardship institutions provide an attractive option to industrial timber extraction, i.e. responding both to the ecological and economic needs of local residents. At the same time, retaining indigenous agroforestry practices also supports local cultures and institutions.

The case of Krui provides a number of important lessons to policy makers, NGO activities, development agency representatives, and researchers including the following:

- *Adat* (communal) property laws are dynamic and can be adapted to allow family control, encouraging household investment, and guaranteeing hereditary rights. At the same time, they can also continue to allow the traditional community to retain oversight over land resources, ensuring that cultural values are respected and customary authority systems are allowed to function.

- Silvicultural environments can be sustainably manipulated in order to achieve multiple management goals including providing habitat for endangered flora and fauna, protecting critical watersheds, and generating income for local families.

- Indigenous groups can develop profitable systems of forest management that require little or no foreign or other outside capital or technological investment.

- Community-based forest management systems like *damar* forest gardens can be excellent systems for protected area buffer zones, providing additional habitat for a range of species nearly as diverse as those found in neighboring primary forests.

- Government recognition of Krui as a Special Management Area (KDTI) has shown to be helpful in strengthening the rights and responsibilities of local communities to their ancestral lands, while positioning them to better resist attempts by outsiders to gain control and exploit natural resources in the area.

- Urban-based coalitions of NGOs and researchers can effectively advocate for traditional community land rights, enhancing their visibility among government planners and development agencies.

Notes

1 Sarah Colm, "Options for Land Security Among Indigenous Communities: Ratanakiri, Cambodia," unpublished manuscript of the Non-Timber Forest Products Project, Banlung, Cambodia, May 1997.

2 Colm, P. 8.


4 Colm, p. 33.


8 Camille Bahn, "An Economic Analysis of Tropical Forest Land Use Options, Ratanakiri Province, Cambodia" (Singapore: EEPSEA, November 1997).
9 Ibid. p. 41.

10 Ibid. pp. 40-43.


12 Ibid. pp. 39-42.


17 Ibid. p. 3.

18 Ibid. p. 3.

19 Ibid. p. 5.


23 Ibid. pp. 105-120.

24 Chip Fay and Hubert de Foresta, "Progress Towards Increasing the Role Local People Play in Forestlands Management in Indonesia," prepared for the Workshop on Participatory Natural Resource Management in Developing Countries, Mansfield College, Oxford, April 6-7, 1998.


26 Ibid.

27 Personal communication from Hubert de Foresta, May 11, 1999.

This case study illustrates the challenges forest-dependent communities face as they are squeezed between growing local populations and new restrictions imposed by the creation of protected areas that restrict resource access. (Note 29) The government of Lao PDR, working with The World Conservation Union (IUCN), has initiated a series of dialogues and planning exercises with residents to find ways to co-manage new conservation areas. With limited professional staff to monitor the new conservation areas and hundreds of villages of forest-dependent peoples in surrounding areas, local cooperation will be a key to successful protected area management. The challenge faced both by local communities and park planners is to achieve viable ways to balance the conservation goals of the country with the historic use rights and resource needs of the numerous villages that share forest areas within the protected area. More work is needed to solve use conflicts between villages using the same block of forest and in-allocating specific territorial responsibilities to individual villages in order to protect the larger conservation zone.

Ban Khamteuy is located in southern Laos, on the inner edge of the Mekong River plain, at the base of a mountain wall. Katang people established Khamteuy Village in the early 1960s when they left their old settlement of Kaengping, along the Xe Bang Nouan River. For generations the Katang have been forest dwellers, practicing long rotation upland rice cultivation. Figure 9, based on a community sketch map, reflects the perspective of Khamteuy villagers toward their ancestral lands and settlement areas.

**HISTORY AND CONTEXT**

After the French were defeated in the late 1950s, Lung Saen, father of the current village headman, was invited to settle at the southwestern base of the Phou Tahnaem mountain range. He brought his family and eight other households to the area. Soon, other families joined them. At that time, the elders say the area was so densely forested that walking was difficult. Until five or six years ago, people were afraid to go far from the village for fear of tigers and elephants. Village families have faced frequent food shortages over the years. Soils are not very fertile and rainfed rice fields average only 8 metric ton during each annual harvest. During the dry season, villagers must climb a mountain wall in order to fetch water from a spring 3 kilometers from the village. Some elder villagers still return to their old fields near the village along the banks of the Xe Bang Nouan River to plant gardens with tobacco and vegetables, though these now fall within the boundaries of the conservation area.

The Katang are one of over 40 ethnic groups that inhabit Laos. In the Laotian society, the Katang are considered to be Lao Theung. One of three major cultural categories, the Lao Theung are groups that inhabit the midlands and practice long rotation agriculture. The Katang are fundamentally animist, though they have adopted some Buddhist festivals and traditional forest and village spirits and ancestors remain important aspects of daily life. A special village spirit house is located in the middle of the village, where two or three ceremonies are held each year, at which time buffaloes are sacrificed and much rice wine consumed. The village chief, Lung Thongdam, is a shaman who acts as a healer and medium of the spirit world. He is well versed in methods to blow, chant, and cleanse evil spirits from the body. According to Lung Thongdam: “The villagers faced many hardships when they were not acquainted with the spirits of the forest in this area. It took nearly 10 years for the Khamteuy community to be settled and at ease with the spirits.” (Note 30)

Khamteuy Village is within two to five kilometers of five neighboring communities. Most are populated by lowland Lao families (Lao Loum) who tend to be wealthier and have larger, better agricultural lands. Khamteuy Village has 38 households of 200 people, most of whom reside in houses with bamboo and leaf walls, though some families have permanent wooden houses. Fertility and mortality rates are high, with 55 per-cent of the population being age 14 or younger. In March 1996, a cooking fire spread through the village destroying 18 houses and 10 rice barns. And because timber felling
has become more regulated since the establishment of the National Biodiversity Conservation Area (NBCA) in 1992, only two families had been able to rebuild wooden houses by 1997.

Road and market access to the village is rudimentary. An unpaved road remains in good condition through the dry season but is closed for months during the monsoon. The village is not tied into an electrical grid, so lighting is dependent on yang oil torches and auto batteries, which can be recharged in a neighboring village. Two years ago a well and water pump were installed in the village which is used, however, only in the dry season when water shortages occur as villagers fear they may damage it through overuse.

**TRADITIONAL TENURE SYSTEMS**

The Katang have inhabited the area encompassing Xe Bang Noun River and the Phou Tahnem Mountains for at least four generations. Before moving to their present Khamteuy Village, located south of the mountains, the Katang village was located nearby the Xe Bang Noun River. Elders speak with great pride of the ratta gardens and forest product gathering grounds near their old village. “We feared and respected the elephants and tigers, and the deer would take shelter beneath our houses, but we did not hunt them.” (Note 31) There was limited agricultural land, however, and the families depended on Kôi, a climber with an edible root dug from the forest floor, as a substitute for their meager rainfed rice harvest. They fished the Xe Bang Noun River with line and spear, respecting the spirits of the deeper waterholes and leaving them as breeding spots. When they moved to their present village, the area was heavily forested and only recently have patches of forest been cleared to create new rainfed ricefields.

Although the Katang have moved their village from the northern border of the plateau to the south, the area that lies between the mountains and the river remains an important forest environment for gathering food and raw materials. Leaving Kamtheuy Village, one passes through dry dipterocarp forests currently being cleared for rainfed paddy fields. After crossing the forests dominated by mäi kung (Dipterocarpus tuberculatus) and the cleared paddy fields, it takes about 90 minutes to climb the escarpment that rises above the village and enter the newly established Xe Bang Nounan protected area. Once atop the plateau, the first two and one-half kilometers are covered in dry dipterocarp forest, followed by another five kilometers of mixed deciduous forest before reaching Xe Bang Noun River, with some evergreen forests midway across the plateau.

The area still retains a substantial population of large mammals. In December 1997, villagers reported sighting a herd of 20 elephants, including two large tusker males, only six kilometers from the village. The villagers had not seen elephants in the area for several years and were concerned the animals might create problems such as destroying banana groves in the forests, disrupting the undergrowth, and drinking yáng oil left in trees. Four large deer, or gaur, had also been seen migrating with a herd. Villagers have also identified the elephant as one of the species critical to the health of their forest areas, including tigers that kill four to eight large livestock each year. Community members are concerned over the direct and indirect threats these large mammals pose to themselves and the forest. It will be important for protected area managers and villagers to work closely together to determine how to balance the needs of large, wild animals with an expanding human population.

Forest paths and the physical terrain define village territorial boundaries. Village forestlands are used for a variety of purposes and carry different restrictions. In Kamtheuy Village, both funeral and spirit forests are strictly regulated by the community. In forests that are open to all for hunting and gathering, individual members of the community may control the oil harvesting rights to specific trees. Open access resources include fish, frogs, mushrooms, bamboo shoots, and damar resin, though there are rules on harvesting to better ensure sustainable use. For example, parts of the river are closed in order to protect fish and frog breeding areas. But disputes over open access resources have increased, indicating the need to negotiate use rights.

After the end of the French colonial period in the early 1950s, the Lao military patrols respected the rights of Katang villagers to use and patrol the forests of the plateau. During this period, neighboring Lao Loum villages tended to consolidate their nearby agricultural lands to enhance their own security. In 1979, a tentative agreement was reached among the local communities and the military over territorial responsibilities, though there was little dialogue with district or provincial government agencies. Over the last ten years, as the political environment has stabilized, the larger Lao Loum communities have begun encroaching on Kamtheuy Village boundaries, clearing land for agricultural expansion. The Katang are understandably concerned about the loss of forest cover.

**FOREST PRODUCTION AND MANAGEMENT**

Due to the low productivity and limited availability of agricultural land, the Katang families of Kamtheuy are heavily dependent on the natural forest for their livelihood. When rice stores are low, villagers eat forest tubers (goy or Diocorea hispidula). Other important forest foods include bamboo shoots and a range of forest vegetables including pak wan (Millennia sauvia) and pak nam (Lasia spinosa). Fish, turtles, and snails are also collected in the forests and streams, providing supplemental protein to the diet. Village women value highly fibers for handcraft production; especially prized are bamboo, pandanus leaves, and rattan which are used to make sticky rice baskets, mats, and other marketable items. Men and boys value frogs and toads which can be sold in the local market as well as yang oil (collected from the yang tree, or Dipterocarpus alatus), ratten, and bamboo which are sold for cash to neighboring villages. In a study covering 28 villages in 4 provinces in Laos, it was found that non-timber forest products (NTFPs) provided families on average with 55 percent of their cash income. (Note 32) Priority rankings indicated the top ten products as follows: bamboo shoots, fish, vegetables, wildlife, cardamon, rattan canes, kisi resin, frogs, mushroom, and yang oil.

At present many of the forest product collection areas that the Katang have relied on for at least four generations are now within the conservation area. During this period, neighboring Lao Loum villages tended to consolidate their nearby agricultural lands to enhance their own security. In 1979, a tentative agreement was reached among the local communities and the military over territorial responsibilities, though there was little dialogue with district or provincial government agencies. Over the last ten years, as the political environment has stabilized, the larger Lao Loum communities have begun encroaching on Kamtheuy Village boundaries, clearing land for agricultural expansion. The Katang are understandably concerned about the loss of forest cover.

**Forest ecologists have noted that certain natural forest species are ‘key’ elements within the environment which play important roles as habitats and hosts, nutrient transfer centers, and structural supports for a variety of other species. So, too, do certain forest species play a critical role in the economies of forest communities like the two species of the teuy or pandanus family among the Katang of Kamtheuy Village. Every family in the village makes between 10 to 20 mats a year from the fibrous matting leaves that grow in the bamboo, dry, deciduous forests of the area. Teuy are harvested every one to two months, with three to four plants providing sufficient raw materials for a mat. The village headman is aware of the raw material available in the forest area and estimates that a sustainable yield would allow each family to increase production to 30 but no more than 40 mats a year. Teuy plants live for eight to ten years, but attempts to artificially propagate them in lands near the village have failed so far. Fire in the forest has diminished the population of teuy, a concern to the village headman. Kamtheuy villagers have agreement with neighboring communities regarding their exclusive harvest areas, some of which are within the NBCA, as well as areas they exploit in common.

Yang oil is collected by cutting holes in Dipterocarpus alatus and setting fire to them to stimulate the flow of the oil. Yang oil and fossils are carefully tended to avoid harming the tree. Oil is used within the village to fuel kabong torches, which provide lighting for homes. Yang oil has also become a commercial commodity in recent years, and villagers continue to collect it from forests near their old villages and the plateau. Villagers from distant areas also tap yang oil in the area. In 1996, yang oil tapping was formally banned by the forest department. Kamtheuy villagers have approximately 50 productive yang trees along the Huey Lahang, deep within the...
Like many ethnic communities in Laos, the Katang designate spirit or cemetery forests as protected forests. Timber felling, the collection of firewood, and livestock grazing are forbidden in these sacred groves although some forest products, like mushrooms, are collected. These local community forests are important habitats for biodiversity in proximity to the village since much of the once-dense, dry dipterocarp forest is being cleared for paddy fields.

As protected areas are established, there is a critical need to define user rights between villages and in relation to government policies and management goals. Some species can be propagated near communities to provide more convenient access to raw materials outside protected areas. Other species can be sustainably managed within protected areas. To avoid conflicts, however, it is important to clarify rights, management responsibilities, and to determine sustainable levels of use.

THE NATIONAL BIODIVERSITY CONSERVATION AREA

In the late 1980s, in response to the growing threat to natural forest environments and hoping to protect up to 20 percent of the country’s land area, the Laotian government initiated a program to establish National Biodiversity Conservation Areas (NBCAs). In 1992, the forested plateau to the south of the Xe Bang Nouan River area was declared a National Biodiversity Conservation Area (NBCA) with three designated conservation core zones. Based on an official Xe Bang Nouan River NBCA map, Figure 10 illustrates this new designated area.

Although initially the NBCA was established with minimal community dialogue, recently the Laotian government initiated a progressive program to allocate forestland to local communities (see Part IV). In February 1998, a three-week land planning initiative was carried out in Khanteuy Village. The activity involved community members, staff from the Xe Bang Nouan protected area, and district and provincial government officials. Rapid rural appraisals conducted by the IUCN/NTFP project staff in 1996 and 1997 informed the government about the forest use patterns of the Katang people in the protected area. As a consequence, and perhaps for the first time in Laos, the community use rights of indigenous peoples within a protected area were given formal recognition during land allocation under a National Biodiversity Conservation Area program. And because only 330 hectares of village land are located outside the area, while they are economically dependent on an additional 3,000 hectares now inside the conservation zone, this was of immense importance to the community.

During the land allocation negotiations with the NBCA planning team, government officials agreed that two stretches of river, one 400 and another 800 meters long, be designated for strict protection, areas already considered to be the domain of forest spirits and traditional conservation zones. Khamteuy villagers are also concerned about working out clearer territorial authority with the eight villages that share its boundaries. The four northern Khamteuy families continue to claim and use these resources. Since the northern villages are located in Savannakhet Province and the villages are putting increased pressure on the yang oil forests and the fisheries near the old Katang settlement along the Xe Bang Nouan River, even Kamtheuy villagers are also concerned about working out clearer territorial authority with the eight villages that share its boundaries. The four northern Khamteuy families continue to claim and use these resources. Since the northern villages are located in Savannakhet Province and the villages are putting increased pressure on the yang oil forests and the fisheries near the old Katang settlement along the Xe Bang Nouan River, even though Khamteuy families continue to claim and use these resources. Since the northern villages are located in Savannakhet Province and the Khamteuy community is in Salawan Province, negotiations are more difficult because they require two sets of local government officials. Khamteuy elders hope that through the land allocation process and the dialogue with NBCA officials, they can reach a clear agreement with their neighbors.

While differences exist concerning land and forest management rights and goals among local communities, as well as with government managers, cooperative action is also apparent. Between February and March 1999, when forest fires occurred in the Phou Tahnaem Mountains, Khamteuy residents fought the blaze for five days. After the fires subsided, the community requested the help of district officials, the NTFP project, and representatives from all user villages to form a fire control committee. The committee of village representatives now meets on the 25th of each month to discuss fire control activities, in conjunction with the district officer and the NTFP project coordinators. (Note 33)

Different views of the forest require villagers and government representatives to conduct sustained discussions in order to create a common language and a new framework for land and forest allocation agreements that will allow communities and the National Biodiversity Conservation areas to reconcile competing goals. The community sketch map of Ban Khanteuy (Figure 9) and the government map of Xe Bang Nouan NBCA (Figure 10) reflect the different perspectives held by villagers and officials regarding the forests of the area. Whereas the village map presents an area of dynamic interaction with the existing natural surroundings and a detailed knowledge of the sources of the various forest products, the government map draws linear boundaries that fail to take into account existing use and customary rights.

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While many conservation areas existed largely only on paper, over the past decade, with assistance from IUCN, WWF, and other international organizations, protected area management systems have started to be put in place, putting government conservation staff and local officials in touch with residents. A separate process was initiated to allocate forests and land to local communities as part of a national land use planning and revenue base development activity. Both of these programs are being implemented in Khamteuy and neighboring villages with promising results.

Although the government has justifiably selected the Xe Bang Nouan for resource conservation purposes, achieving this objective has presented practical problems. Enforcing low or no use regulations is difficult with only ten rangers patrolling over 100 villages covering 1,300 square kilometers. It is unlikely that the government will be successful in protecting these natural forest environments without the active participation of local communities. Nonetheless, the participatory land and forest planning process in Lao PDR is one of the most innovative in Southeast Asia because of its flexibility and willingness to respect and acknowledge traditional institutions and communal tenure systems.

LESSONS LEARNED

This case study demonstrates that there is considerable overlap regarding government and community management goals and that ongoing dialogue and participatory mapping activities have helped establish a framework for collaboration. The case study generates the following lessons:

- Involving forest resident communities in a dialogue with their neighbors and local government officials can help to clarify who will manage and protect the forest blocks, within the protected area.

- The Lao PDR program for preparing participatory village forest and agricultural land management agreements provides an enabling legal framework for government and communities to negotiate forest rights and responsibilities. It also shows that this process can be effective in forests zoned for conservation purposes.

- Holding dialogues with resident communities in and around protected areas can help reduce conflicts and enhance cooperative management, even when conservation zones have already been designated. Indigenous resource use systems, like the Khamteuy communal ban on fishing two stretches of river on the north side of the park and on felling trees along river courses, can be integrated into park management zoning strengthening conservation strategies.

- Establishing a fire control committee involving all resident villages is an important first step in creating permanent mechanisms for coordinating management activities and mediating resource access disputes.

- Non-governmental initiatives, like the IUCN-NTFP project, can help build government staff capacity to interact with communities and strengthen cooperative ties with forest-dependent groups residing inside or near protected areas.

THE PANTARON MOUNTAINS, MINDANAO, PHILIPPINES
In the Pantaron Mountains of east central Mindanao the indigenous Bukidnon and Manobo forest peoples struggle to maintain their way of life amidst political instability and social change. For centuries these communities have resided in the upper watersheds of the Pulangi and Agusan rivers. But now, lowland migrants, loggers, commercial farms, and conflict between the military and insurgent groups have led to the marginalization of these people. As the natural forest cover has withdrawn, so, too, have the Bukidnon and Manobo, who now number only 10,000. Yet, their survival, as well as the fate of the rich montane forests they inhabit, may well be linked, for the forest peoples of the Pantaron both depend upon and protect these critical watersheds. This case study describes both promising new initiatives that may help to stabilize the environment and the society and the forces that oppose them. It also reflects how the progressive ancestral domain policies of the Philippine government are being implemented, with their strengths and limitations.

HISTORY AND CONTEXT

One of the largest remaining old growth forests in the Philippines is located in the Pantaron Mountain Range of Central Mindanao. It covers 1.8 million hectares and stretches over 200 kilometres from the Province of Misamis Oriental in the north to the Province of Davao del Sur in the south (see Figure 11). The mountains are the source of the Pulangi and Agusan rivers and contain four critical watersheds serving the lowland agricultural and urban centers of Mindanao. The natural forests of the region support immense biodiversity and links important breeding sites of the Philippine eagle at Mount Kitanglad and Mount Apo.

In the mid-nineteenth century, the region began to open up as Dumagat settlers and ranchers moved into the area. By the late nineteenth century, small, scattered communities of swidden farmers were characteristic of Bukidnon and Manobo societies. Families also hunted and gathered in the forests, collecting forest products for trade with the lowland Dugamat. Tulangan, or settlements, were often located in river valleys and were under the leadership of a datu, a man who had earned the respect of the community for his ability to resolve disputes. Success as an arbiter or counselor required knowledge of customary law and oral history. The position of datu can be hereditary or by appointment (by another datu) but must always be confirmed by the community. While these communities tended to be autonomous social units, according to historical records from the eighteenth century, there were periods when the Bukidnon peoples united to repulse the Moro and other raiders from the North. (Note 34)

During the first half of the twentieth century, the American colonial administration began resettling the Bukidnon and Manobo communities, attempting to integrate them into lowland society. Following World War II, American logging companies began exploiting forests in north-eastern Mindanao under a parity agreement that gave U.S. firms equal access with Filipino companies. Weyerhauser, Georgia-Pacific, Boise Cascade, as well as local logging companies, moved rapidly to extract timber from the valuable commercial dipterocarp forests. (Note 35) Logging in the watersheds of the Pulangi and Agusan rivers between the 1950s and 1970s resulted in massive upland erosion and downstream siltation, causing a series of severe floods that left thousands homeless in the 1980s and 1990s.

Increasing numbers of Dumagat settlers, largely from the Visayan Islands, began pouring into the Mindanao uplands utilizing the newly constructed logging roads. From the end of World War II to the late 1970s, the population of Bukidnon Province increased 700 percent. Large multi-national agribusiness expanded, intensifying land use pressure and generating conflict between the indigenous peoples and the migrants. This case study explores how two relatively small but significant Bukidnon and Manobo communities are struggling to cope with encroaching resource exploitation and their efforts to secure certificates and management plans for newly declared ancestral domain territories.

THE BUKID-NON OF BENDUM

Bendum and the neighboring Bukidnon sitios, or hamlets, of Tawan-tawan and Mahayag have a population of about 500 people, with another 50 families living in isolated forest clearings near their swidden fields. These families are connected by marriage and culture with other communities over the mountains and form an extended tribe. The people of Bendum define their territory around the micro-watershed they inhabit, an area of approximately 7,000 hectares (see Figure 12).
In the early 1960s, logging operations entered the area, opening the homeland of the Bukid-non of Bendum to an influx of Dumagat migrants from the islands of Bohol and Cebu. Migrants quickly acquired much of the more fertile valley lands from the Bukid-non, who were both generous to the non people began moving to the new site at Bendum in 1985 when Datu Nestor, an elder leader of the community, migrated to the area. The Bukid-non community, clarifying issues, of Bendum were distrustful of outsiders and anxious to communities to move away from their forest settlements. The people still suffer from these traumatic dislocations. In the case of Bukid-non, 29 of the 30 sitios located on the western slopes of the Pantaron were forced to abandon their homes and move into larger communities. On the eastern slopes, people tended to retreat deeper into the forest.

The Bukid-non people began moving to the new site at Bendum in 1985 when Datu Nestor, an elder leader of the community, migrated to the area with his family. After moving repeatedly to avoid conflicts and migrants, the Bukid-non families of Bendum were distrustful of outsiders and anxious to stay in the new settlement. Having retreated to a site on the east bank of the Pulangi River valley, the new village was close to the remaining old growth forest and had good water sources. Yet the threats followed them to the new settlement; the insurgents were present, a logging lease still existed for the upper watershed, and Dumagat migrants were already entering the area and attempting to buy local farmlands. The social fabric of the Bukid-non community was badly frayed, as reflected in diminished confidence, weakened leadership, and little solidarity.

To survive in a rapidly changing environment, the community had to learn to cope with economic and political challenges, to widen their horizons, and to come to terms with the outside world. Through a series of dialogues, facilitated by the Institute of Environment for Social Change (ESSC), Bukid-non leaders and community members decided that a strategy of avoidance was a mistake. Retreat was not a remedy. They came to realize that they would have to struggle to gain recognition and to reclaim their birthright and ancestral legacy.

In 1992, staff from ESSC began visiting the area. ESSC had been working with other indigenous communities in the Sierra Madre Mountains in Luzon, assisting them in articulating their concerns and developing strategies for action to respond to logging and mining threats in their area. They then decided to focus on the Bendum community. This was a strategic choice because of the connections and cultural links with other Bukid-non communities located along the Pantaron range. From these kinship and cultural ties, ESSC hoped that knowledge from the Bukid-non of Bendum could be shared with other Bukid-non and Manobo communities and contribute to improvement in the lives of many indigenous peoples. Working with Datu Nestor Bukid-non leaders, over the next seven years ESSC hosted a series of meetings so community members could gather and talk. After one such meeting, the Datus of Bendum issued the following statement:

*When the Earth was created Magbabya chose to put us in this place called Bendum. Here we were born and inherited this land from our forebears. When their laws were not violated, we did not go hungry for much was harvested from our gardens. Our crops were protected by the spirits of the land. The entry of companies to get logs and rattan marked the start of our hardships. The land we inherited from our ancestors became but a skeleton of our beloved forest destroyed by logging. Our way of life has become more difficult, and because the spirits are angry we are forced to take action. And so we unite to protect and care for this land of our ancestors. (Note 36)*

With ESSC’s help, the village established a primary school that used the Bukid-non language as the medium of instruction, developing a literacy program based on tribal cultural history. One method for participatory resource analysis, which ESSC had successfully used in the past, was community mapping.

**Community Mapping**

Land control quickly became the focal issue of village discussions. In 1993, the community began a program to map the land that had been given to migrants. The sketch maps showed clearly that extensive areas in the new settlement had already been transferred to lowland migrants. The villagers also found that they retained control of most of the good forest, situated above the farmlands. Community sketch maps identified the territorial boundaries of each datu’s authority, relying on natural landscape features like hills and small catchments. Map analysis discussions focused on ways to better manage and protect each area.

Community mapping proved an effective tool in allowing the Bukid-non to portray their perceptions of the world. The resulting maps depict a history of their activities in the watershed and the relationships between the communities. The maps have provided the communities with a clearer picture of resource and land tenure status, including where rights had changed hands, were they were in conflict, and where they remained relatively secure. Once conflict areas were identified on the map, it was easier for the community to develop a strategy to resolve them. The community mapping process created an activity around which communication channels could be opened, engaging the larger Bukid-non community, clarifying issues, enhancing the confidence of tribal members and leaders, and creating a stronger sense of unity. Sketch maps are also being used to formulate community policies, specifically on the extraction of resources, and community maps are used to develop a spatial inventory of resources, involving the recording the location of flora and fauna species and their uses. Maps also provide a common framework for discussions between the community and
In 1994, the community learned that a Cebu-based company had applied for a rattan-harvesting license in their area. Rattan, a major source of cash for the village, had already been exploited by the community and needed time for regeneration, not further extraction pressure. After suffering decades of timber felling by outside companies, the community decided to resist this new attempt by outsiders to capture their resources. The community wrote to the DENR asking them to refuse the license to the company and to award the license to the community instead. Despite the community protest, the Cebu company was awarded the license in October 1994 but so far, has not attempted to enter the area. In 1995, a man from the city of Malaybalay with a permit to cut logs, but not in Bendum, started cutting mahogany on the edge of the community area. The community stopped the loggers, dragged the logs back to their sitio, informed the DENR and requested that the logs be used to build a better school.

In 1995, disappointed that the government did not give them the rattan license, community leaders decided to formally apply for a Certificate of Ancestral Domain Claim (CADC), since this would ensure that government would recognize their traditional tenurial rights. In 1998, the DENR approved the CADC for Bendum but not for the two neighboring Bukid-non settlements. The Bukid-non of Bendum, along with the neighboring settlements, have continued to elaborate their strategy for managing the 7,000 hectares awarded the group through the formulation of an Ancestral Domain Management Plan (ADMP).

While the Bukid-non of Bendum have made considerable progress in regaining their confidence and developing a strategy to deal with the outside world, their position remains tenuous. Neighboring communities want to cut rattan illegally in the community forest. Village leaders and ESSC staff are frustrated when they see government failing to follow through on implementing national CBFM policies. It is unclear whether the new Estrada government will have the political will to support the Indigenous Peoples Rights Act (IPRA) under the current round of constitutional challenges. In September 1998, the DENR was instructed to cease issuing or processing CADCs for the time being. Community forestry specialists are concerned that the new government has lowered the priority of programs to empower indigenous peoples and upland forest-dependent communities that took years to develop. Despite the fluctuations in political commitment on the part of the central government, the Bendum community is undergoing a transformation, with clear indications of a reawakened sense of unity and a greater consensus regarding directions for action.

THE MANOBO OF KASAPA

Across the Panataron Mountain range lies the village of Kasapa, home of the 90 year old Datu Hawadon Tagleong Coguit and his Manobo community. In 1995, disappointed that the government did not give them the rattan license, community leaders decided to formally apply for a Certificate of Ancestral Domain Claim (CADC) for 51,000 hectares recognizing their legal claim to land that has traditionally been held by them (see Figures 12 and 13).

The CADC was issued in the name of Datu Tagleong who the government considers the Supreme Datu representing 400 Manobo tribal families inhabiting this comer of north central Mindanao. This CADC is important because it is the first of 38 pending CADC applications to be approved within the Province of Agusan del Sur, and by far the largest. While their claim has received recognition, the Manobo will not be allowed to take formal operational management of the land until they have an Ancestral Domain Management Plan approved by the DENR. According to Datu Tagleong:

*We are the Manobo who live in this place since time immemorial. It is our hope and longing that we will be recognized as the rightful stewards of the forest which we depend on for our survival.* (Note 37)

CADC’s boundaries follow traditions including rivers and hilly ridges, much of the catchment of the Mayan Three-quarters of the area falling within the CADC had previously been part of the Santa Inez Melale Corporation timber area whose lease expired in July 1998. Currently, 89 percent of the CADC area is covered by forest, largely early to intermediate phased secondary growth, though stands of the original dipterocarp old growth (nara, almaciga, etc.) are still present. Most of the remaining forestland is under rotational cultivation and planted with upland rice, corn, cassava, and other food crops.

**Commercial Logging**

The Manobo people of Agusan del Sur are part of the larger Manobo ethno-linguistic group that has for centuries inhabited the interior uplands of north central Mindanao. Until fairly recently, the Bukid-non Plateau and the densely forested neighboring mountain ranges presented a barrier for Arab traders and Spanish colonials, while alliances and strong leadership among the Manobo allowed them to resist foreign invasion of the area. Only towards the end of the nineteenth century did the area open up to trade and greater interaction with lowland communities. West of the municipal town of La Paz, the forests where Datu Tagleong lives were relatively isolated from development that was concentrated along the Agusan River Valley until the 1950s when logging activities expanded into the area. In 1958, Guilleromo Ponce, a businessman from one of the leading political families in the province acquired a 20-year, 99,000-hectare logging license in partnership with American investors. The Santa Ines Melale Forest Products Inc. (SIMF) was later transferred to Rodolo.
Cuenca, a cron of then President Marcos, who frequently used timber license agreements (TLAs) as payoffs to business and political partners and family members.

The concession area covered much of the traditional lands of the local Manobo clans who relied on the forests for hunting, gathering, and clearings for swidden farming. When logging began in the 1980s, conflicts arose between local residents and company workers resulting in several deaths. Company managers met with the local Protestant pastor who lived in La Paz. He recommended they contact Datu Tagleong, a traditional and respected elder for many Manobo families. Tagleong had inherited his position but his reputation as a skilful leader and negotiator had grown over the years. The logging company asked him to appoint 51 other datus to represent each of the formal felling compartments within the lease area.

From the 1970s to the early 1990s many Manobo men worked for the logging companies. Manobo villagers used the logging trucks and traveled on the roads the company built in order to reach outside markets. Wage labor brought cash to the heavily subsistence-based families, allowing them better access to schools, health facilities and low-cost consumer goods. After the company changed hands in the 1970s the new owners pursued a more aggressive logging policy, in some cases, clear-felling areas. Under pressure from the DENR to reforest, the company persuaded local Manobo communities to plant industrial trees like Falcata albeiza in their fallowed swidden lands. In some areas, this gave rise to concern that the communities would lose control of their ancestral lands to the timber company. (Note 38)

**New Production and Management Systems**

After 25 years of commercial logging in the area, the Manobo culture, and its traditional datu leadership structure, has been undermined. On a recent field interview with Datu Tagleong, it was revealed that President Marcos had given him the title "Supreme Datu," a title not found within the Manobo language or culture. Tagleong stated that the awarding of his title and the appointments of the other datus has caused some dissension in the community. A former head of the Philippine government's Office of Southern Cultural Communities (OSCC) notes this kind of manipulation is commonplace among logging companies. "First, they hire the tribal chieftains or datus as concession guards and woo them to their side. Then they hire some of the tribal members as casual laborers, most of them not even appearing on the company payroll. Then, they abuse the grounds of the tribal communities and gradually take over." (Note 39)

The Manobos are currently under pressure to develop a management plan (ADMP) to make the ancestral domain land grant (CADC) operational, but no process exists at present to create a consensus-based set of goals and the mechanisms to achieve them. Due to their 20-year dependency on the logging company the Manobo have become accustomed to relying on outsiders to tell them how to manage their environment. To formulate an ADMP that reflects Manobo cultural values, the community will need time for redefinition. The opportunity to manage their ancestral lands as a CADC provides the Manobo with a chance to restore their culture, while addressing social, economic, and environmental problems.

At present, there is little sense of unity or effective leadership among the hamlets that comprise the CADC holders. Pressures to quickly finalize a plan may result in the process being controlled by outside investors and government technicians. An effective ADMP will require an ongoing dialogue within the community, one that has been under way for eight years in Bendum. Many Manobo want to preserve their traditional heritage but are also ready to discuss their future and gain access to better education, health services, and material goods.

Before the logging company entered the area, Manobo economy was based on rotational farming, hunting, rattan harvesting and abaca extraction. Now, community members are showing increasing interest in adopting the farming techniques of migrants, but these require carabaos (water buffalo), pesticides, and fertilizer. They also need well-maintained roads and the means to transport their goods to market. Community members estimate that each household will need 10 hectares for farming and have proposed that the government allow them to develop the land by giving them a permit to cut the Falcata albeiza trees that were planted as part of the reforestation program. The timber income could be used as start-up capital for their farms. The Manobo also seek to protect the natural forest as a hunting reserve.

With approval of the DENR, a group of investors from New Zealand and Finland are helping to prepare a management plan for the Manobo. ESSC is concerned that these investors will only design a profitable forest production enterprise that pays little attention to the social and cultural needs of the community. Because their traditional values and resource use systems have deteriorated after decades of involvement with logging companies, ESSC believes that any model for future management should attempt to integrate modem practices and new technology within a traditional Manobo framework. Given the present fragmented condition of the Manobo community, the six-month period for management plan preparation is inadequate. Despite the difficulties, their CADC, if properly handled, could provide the Manobo with an important opportunity to revitalize their culture and restore their way of life and pride in themselves.

**LESSONS LEARNED**

The forest plays a vital role in the lives of both the Bukid-non and the Manobo peoples. With DENR programs such as the issuing of CADCs and CBFM initiatives, new tenurial instruments are becoming available to formally engage local people and communities as natural resource stewards. Experience from Bendum and Kasapa provide important lessons regarding opportunities, strategies, and requirements to better involve communities in forest management:

- Empowering communities as forest managers requires consistent policy support, effective agency capacity that draws on partnerships with NGOs and practitioners, and flexibility on the part of local government.
- Cultural revitalization of disempowered forest-based communities requires years of supportive action including strengthening leadership and social institutions, enhancing the local economy, and forging new agreements with local government.
- Indigenous communities can re-establish their cultural vitality and regain management control of upland forest resources provided they are given the time and opportunity to meet and address their fundamental problems.
- Simple demarcation of ancestral domain alone may not stabilize forest resources or meaningfully empower resident peoples. Communities targeted to receive management authority over forests need time to clarify leadership patterns, institutions, management goals, as well as the rights and responsibilities of their members regarding newly acquired resources within their own framework for cultural change.
- Indigenous communities are highly vulnerable to manipulation by outside interests including government and the private sector. Communities need to be protected from exploitation by external agents, while they develop their own management systems.
29 The information in this study was collected by the IUCN—NTFP project team in Laos between 1996 and 1998. Team members included Rachel Dechaineux, Synoui Phomsoupha, Veomani Chanthanivong, Siphong Chanthavongsa, and Vongdeaune. The National Project Coordinator is Southone Ketphanh and the Senior Advisor is Joost Foppes.


33 Personal communication from Rachel Dechaineux, Field Advisor, NTFP Project, April 19, 1999.


36 Based on interviews conducted by ESSE field staff in the mid-1990s.


38 Ibid. p. 141

CHOM THONG DISTRICT, NORTHERN THAILAND

This case study examines events in Chom Thong district in northern Thailand where the need for new protected areas and expanding lowland water requirements has impacted the upland ethnic minority communities. (Note 40) Because of the complexity of the situation, which involves government needs for conservation, increasing lowland water use, and the criminalization of upland communities, this conflict over resource rights found its way to the center of the national debate in the late 1990s. (Note 41) With the assistance of the Northern Development Foundation, the Northern Farmer’s Network, and other NGOs, upland communities are organizing to better respond to the challenges they face from lowland agriculturists and conservation groups, such as the Chom Thong Conservation Club and the Dhammamaat Foundation. (Note 42)

HISTORY AND CONTEXT

Chom Thong district is located in Chiang Mai Province in northern Thailand. The Karen established the village of Ban Klang along the banks of the Mae Klang River 200 years ago. In 1972, Doi Inthanon National Park was demarcated in the uplands above the village which includes Thailand's highest peak, Doi Inthanon. Parts of the park and upper watershed are the home of the Karen, Hmong and other ethnic minority groups. Water from the Mae Klang river, which originates in the upper watersheds of Doi Inthanon, irrigates longan fruit (lamyai) orchards and paddy fields in the lowlands of Chom Thong.

In 1985, in response to accelerating forest depletion in Thailand, the government set a goal to maintain at least 40 percent of the nation's land as natural forest. To achieve this goal, the government extended and strengthened state control over reserve forests and protected areas including national parks, wildlife sanctuaries, and watershed areas. Communities were not permitted to live in or use and harvest resources in the strictly defined protection zone, Watershed 1A, and were allowed only limited use and harvesting in the buffer zone (see Figure 14).
To demarcate the forests, Royal Forestry Department (RFD) officials relied on satellite images, assuming that older secondary forests were uninhabited. Because of this assumption and underlying political considerations, upland communities were not consulted during the process of demarcation. Thai NGOs and university staff organized a series of community-based mapping exercises in the north to demonstrate that many forests corresponded to areas traditionally managed by upland communities. (Note 43) Despite this information, land use planning decisions were communicated to upland residents sometimes years after the plans were already developed.

The government regulations have brought dissension among upland communities, especially in the north, where inhabited forestland has been designated protected or conservation areas, artificially creating “illegal” residents out of many upland communities. While many RFD officers feel it is better to develop management partnerships with forest-dependent communities, other government planners and administrators contend that the only alternative is to remove established upland communities and resettle them in the lowlands.

Resettlement is also an important component in the strategy of the Asian Development Bank (ADB). According to the ADB's program director, Norita-ka Moirta, “Nearly 60 million people are living in forest and hill areas of the six Mekong countries ... we may have to relocate the population of people in mountainous areas and bring them to normal life.” (Note 44) Many communities were relocated to areas with limited amounts of marginal farmland, or to areas already settled, resulting in social conflict and sometimes further forest encroachment. While it is unclear which protected areas and watersheds have benefited from resettlement, it is clear that ethnic minority groups have fared poorly.
In the last two decades, businessmen from Bangkok and Chiang Mai have purchased land and orchards in the lowland areas and expanded longan cultivation on land near Chom Thong. Longan orchards have increased more than six times since 1975, an area of about 50 square kilometers. This growth has encouraged a parallel increase in the consumption of water for irrigation. The lack of water has sparked a reevaluation of the district’s resource management systems causing a serious rift between the lowland and upland people.

Traditionally, lowland Thai farmers managed their water resources through their water users’ organization (muang faa), which operated 15 weirs and three reservoirs in Chom Thong district. But, in 1989 they established the Chom Thong Watershed and Environment Conservation Club, which eventually included the operation of all the weirs in the district. In this conflict, the club has become allied with the Dhammanaat Foundation for Conservation and Rural Development, which was founded by a Buddhist monk, Phra Ajam Pongsak Tejadhammo, the current president.

RESOURCES IN CONFlict

The issues in the Chom Thong district have intensified the debate about the relationship between lowland and upland communities. Communities in the lowland, supported by various interest groups, have demanded that upland ethnic minority villagers be resettled in order to place their lands under protection and conservation. On the other side of this debate, the upland people and their supporters maintain that rights of indigenous upland communities to practice sustainable forest management are being usurped and that the decrease in water is being caused by changing weather patterns and growing agricultural pressures in the lowland.

An example of how these divergent views have created serious conflicts among the people of Chom Thong occurred when there was a drastic loss of fruit trees during a severe drought in 1998. The conservation club blamed the upland villagers who they said started many forest fires in order to open new farms. By disturbing the watershed, club leaders claimed the Karen were responsible for diminishing the water flow. When asked about this, upland villagers retorted that businessmen who wanted to build resorts in the national park started the fires. According to Mr. Kerd Panakumnerd, a Hmong community leader:

In February or March, someone sneaked in and burnt the forest somewhere above Khun Lang waterfall. The fire lasted one night and half a day, then we managed to stop it. I don't know who did this. It might be someone with bad intentions. He might want to provoke conflicts between us and the lowlanders. (Note 45)

The Dhammanaat Foundation has focused their efforts in this area by trying to restore the watershed forests, promote agricultural development in the lower valleys, and resettle the upland villagers. They initially saw their role as one of educating the villagers as to the nature of the watershed process and assisting them in creating a more sustainable system for watershed management, but they have become increasingly rigid in establishing fenced-off areas of conservation and restricting access. The first barbed wire fence was put up in 1984 in the uplands near Pa Klauy, becoming a symbol for the values held by the foundation. But, it was the proposal of resettlement that has become the most controversial issue. M.R. Smansnid Svasti, vice president of Dhammanaat is a firm believer that only resettlement can protect the watershed:

People living in these very fragile steep sloped areas will inevitably damage the forest. But they've got to eat. So they've got to chop down tree. Anybody living there will inevitably destroy the forest. No one should live there. (Note 46)

The campaign to resettle the hill people in Pa Klauy and other communities within the watershed started in January 1997 and escalated in May with the conservation club blocking the four access roads to the highlands. With the assistance of other environmental NGOs, the Chom Thong Conservation Club demanded that the government overturn a series of 1997 cabinet resolutions that strengthened the rights of local communities to manage their forests. In June 1998, a new resolution effectively cancelled those previously supportive of the rights of upland communities to practice sustainable forest management are being usurped and that the decrease in water is being caused by changing weather patterns and growing agricultural pressures in the lowland.

The road blockade made trouble for people. We are only a minority and we didn't how to react to this ... Water shortage has always been a key problem that the lowlanders use to attack us ... This year there has been a severe drought because of El Nino. The agriculture in the lowlands requires much water for longan orchards ... they all plant longan which need to be watered even in the dry season, so they consume much water from the rivers. (Note 48)

Mr. Thao Sae Va also noted that the Hmong villages were trying to adapt their behavior to minimize their impact on the watershed. He noted that the Hmong community had reduced its land use by half, with the average household only owning approximately one hectare (5 to 6 rai).

In the past we used a large area of land to grow opium, rice, and corn by rotational fanning. We were told that old way of agriculture was not sustainable and that it damaged forest and natural resources.
Now we are trying to do mix-cultivation fanning planting flowers and trees like plum and peach, which require smaller areas. (Note 49)

THE NORTHERN FARMER’S NETWORK

In response to the growing conflict throughout northern Thailand, the Northern Development Foundation (NDF) assisted in the formation of the Kor Gor Nor or Northern Farmer’s Network (NFN) which links 107 villages located in 14 sub-watersheds in the upper northern region of Thailand (see Box 14). Many of the villages fall within the proposed or established boundaries of 19 different protected areas. The network strives to promote community forestry and local participation in natural resource management. It also promotes the application of indigenous knowledge to management strategies. The member villages of the NFN are predominantly upland and highland villages of ethnic minority groups, predominantly Karen, Hmong, and Lahu peoples, though other ethnic groups, as well as lowland Thai communities, are starting to join. The network operates in Chiang Mai, Chiang Rai, Mae Hong Son, Lamphun, Lampang, Tak, and Kamphaengphet provinces, with its regional office in Chiang Mai City.

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<tr>
<th>Box 14: Northern Development Foundation, Thailand</th>
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<td>In the early 1980s, senior NGO leaders arranged a series of workshops and field trips in order to bring together rural development workers in the north of Thailand. The exchange of experience and knowledge proved so valuable that the Northern Development Workers Association (NDWA) was formed to enable the ongoing exchange of information and collaboration between northern NGOs. NDWA began to publish a journal, “Message of the North,” to assist in information dissemination.</td>
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<td>By the late 1980s, given the direction of forest policy and resultant problems in the field, including the growing number of communities under threat of resettlement, NDWA and other NGOs in the north began concerted efforts to support and strengthen emerging community organizations. One such group that was established was the Kor Gor Nor or Northern Development Foundation (NDF), which was founded to link communities by using watershed as an organizing unit. This framework allowed communities to collaborate in defining mutually acceptable directions for conservation and development within the context of the shared watershed. To consolidate its role as a support center for NGOs and POs working to enhance the forest tenure and security of upland communities, the NDWA was formally registered as the NDF in 1996.</td>
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<td>The NDF provides a variety of services to its members and collaborates with other support institutions. With the assistance of the Regional Community Forestry Training Centre (RECOFTC), the NDF forms partners with local communities to conduct counter mapping activities in five major watersheds, including the Wang, Chaem, Khan, Kok and the Upper Ping. The NDF also provides focused leadership development training. The organizational approach of the NDF is highly flexible, allowing it to build alliances with other NGOs and POs. In this manner the NDF is able to extend its information dissemination and support services to those communities not included in the NFN.</td>
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<td>Over the last ten years, the NDF has joined with other NGOs and networks to develop the Community Forestry Bill and to lobby the government to ratify it. In April 1997, a series of cabinet resolutions provided NFN communities with time to prove they were living in the forestlands prior to their being designated as protected areas. While these agreements were effectively cancelled in June 1998, the NDF, together with other NGOs and networks, is challenging the legal validity of using old conservation laws that are in conflict with the 1997 Constitution. These new strategies will continue to put pressure on the government to respond to the demands for social justice and equity for upland and highland villagers.</td>
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NFN member villages are all heavily dependent on forests for subsistence and for meeting nutritional, health, spiritual and sometimes economic requirements. All NFN members possess forest management committees and promulgate forest use regulations in addition to managing community forest funds through annual household fees. Along with the forest committee, each member village belongs to a cluster of communities sharing the same watershed. Representatives from watershed networks participate in NFN regional meetings held monthly. NFN coordinators rotate the monthly meeting among member villages to better expose one another to specific local issues. The NFN operates through elected executive and working committees.

NFN member communities agree that cooperation with lowland communities is a key to sustaining the upper watersheds, and that a decentralized approach that empowers each village to control its own resources is in order. At the same time, the NFN acknowledges that both highlanders and lowlanders will need to conserve these resources carefully as populations expand.

It is important that people living in each area have their own watershed community forest. Forests in the highland watersheds, that hill people have taken care of, might be able to supply water needed now in both the agricultural areas of the highlands and lowlands. But it certainly cannot keep pace with the ever-increasing demands for water and forest made by the lowlanders. What we need is cooperation between people to protect the forests so there is a mutual benefit in the recovery of forests in both the lowlands and highlands that helps keep all watersheds in
balance. (Note 50)

The primary objective of the NFN is to encourage the government to involve local communities and People’s Organizations (POs) in natural resource management and in the development of policies and legislation that affect them, particularly in the areas of community forestry and dam construction. The NFN works to build the capacity of local leaders and groups, including women’s groups and youth groups. The NFN has a clear role in building alliances among villages, and in supporting local village responses to land and forest issues. The NFN strategy is for villages to exchange experiences and lessons learned and to seek ways of developing more appropriate and sustainable approaches to centralized state resource management policies.

The NFN has increased awareness of government policies in rural areas and begun to work with local communities to map traditional land use areas, now called “community forests” so that protected area boundaries can be renegotiated where they overlap. Traditional land use regimes are documented to help local people communicate with both the government and society at large to demonstrate their capacity and willingness to manage forest resources in a responsible and sustainable manner.

NEW PRODUCTION AND MANAGEMENT SYSTEMS

As members of the NFN, the Karen and Hmong communities in the upper watershed of Chom Thong district, with their support of other NGOs, have tightened rules for forest use. In response to these new management strategies, Mr. Thao Sae Va stated:

We set up regulations and restrictions. The conservation forest has a strict prohibition, whereby its use is not permitted. In the case of the reservation forest, some activities are allowed, but are strictly monitored... Animal hunting is prohibited... Also every villager has responsibility for monitoring and taking care of the forest. (Note 51)

But, concerning the prospect of the Hmong and Karen communities being forced to resettle, Mr. Thao Sae Va commented:

The Chong Thong Conservation Club took us to the resettlement area to have a look. But the land we saw was very infertile ... there was no water supply in that area ... We have long been settled here [since 1939]. We have developed the land, and now our plants have grown. If we had to resettle, we would have to start over again to cultivate and develop the land. It would be very difficult for all of us to survive in that kind of situations. (Note 52)

The villagers in the Mae Kiang watershed are typical of many residents in upland settlements. They have changed their traditional practices, learning new resource management skills, and have responded to local RFD requests to stop shifting cultivation, even though many of these traditional systems work within the regenerative capacity of the forests. Many villagers in the highlands are willing to reforest former fields now left fallow. They are also strengthening their organizations to protect their forests against fire and illegal loggers.

This conflict underscores the tactic of exploiting tensions that influential lowlanders often use to assert their rights to access natural resources. Unfortunately, as this case study demonstrates, they are highly divisive. By demanding the removal of certain upland/highland communities, some environmentalists are eliminating potential allies in the effort to conserve natural environments. Upland communities, especially when given assistance and support, are highly effective forest-fire fighters and protectors of the watershed. Evidence from other countries in similar situations indicates that forest cover quality and the hydrological functioning of watersheds will return if communities are able to mobilize and establish "social fences" to control and restrict access. Reflecting on the increasingly stigmatized identity of his community, Mr. Thao Sae Va concluded:

Being a hill tribe member is the same as being a criminal, although the crimes committed were encouraged by the government. But even criminals can change and become good people, only if society gives them the chance. We Hmong people are now preserving our forests, regenerating those areas denuded by the opium and the cash crops. We only ask you to give us a chance to prove that we can take care of our forests. (Note 53)

Ethnic minority communities located in the Mae Klang watershed, both within Doi Inthanon National Park and on its periphery, have formed the Watershed Forest Committee under the broader framework of the Northern Farmer’s Network (see Figure 15). The Watershed Forest Committee is made up of two member representatives from each of the 11 participating villages. Each village also maintains a forest committee with 5 to 7 members. Village activities include monitoring forest use, surveying, and fire fighting. In recent years, the committee has formulated a number of rules for member communities. These include:
Do not expand agricultural area, especially into forest areas.

Do not sell land to outsiders.

Do not cut trees to sell to outsiders.

During the burning season, maintain a fire line at all times.

All community members must participate in fire control activities.

These rules reflect the growing concerns of upland ethnic minorities over tenure security, threats to the environment, and their increasing commitment to sustainably manage the resources upon which they depend.

There is increasing pressure on the Thai government to ratify a Community Forest Bill that effectively grants all members of the community the legal right to participate in the management of both conservation and non-conservation forest. At the moment, the government still retains the authority to resettle people if it decides that an area should be classified as "natural habitat." According to Professor Anan Kanchanapan of Chiang Mai University, what is needed is a policy that does not engender conflict between communities but stresses a form of participatory management that includes both lowland and upland people. He believes that academics can assist policy makers and government officials by providing them with well-researched information about the value and purpose of upland management strategies and how watershed policies can incorporate them. He writes:

*The Politics of conservation is a complex discourse that involves vested interests on one side, and the interests of some of the people of the hills on the other Academics are trying to get all the politics into the open so that people will understand what is going on. (Note 54)*

LESSONS LEARNED

Ethnic minority communities in the Mae Klang watershed are experiencing increasing pressure from lowland Thai communities that are competing with them for land and water resources. They also feel threatened by the government whose policies and programs restrict the use of Class 1A Watershed, expand protected areas, and restrict tree cutting, the use of fire, and opium growing. At the same time, upland and highland communities are demonstrating a number of positive adaptive responses, including making greater efforts to conserve and protect forestlands, and respond to the management goals of government and lowland communities. This case yields a number of important lessons.

- Forest-dependent communities are very aware of the social and environmental pressures that they face and they are willing to take action to respond to strengthen their tenure security by banning timber sales, banning the clearing of forest for new agricultural land, and strictly controlling the use of fire.

- Upland villagers in northern Thailand are concerned that they will lose control over their resources to land
speculators and that they are attempting to protect their cultural community through prohibitions on land sales to outsiders.

- Better coordination among watershed communities facilitated through networks and federations can accelerate learning regarding ways to stabilize natural resources and reduce conflict with neighbors. Efforts to deal with outside stakeholders through facilitated dialogue have allowed new modes of dispute resolution to evolve.

- Watershed organizations can provide useful mechanisms to coordinate use and protection activities. Federations can allow for better regional exchange and representation with local government.

- NGOs and university-based scientists can contribute to facilitating communication among forest-dependent communities and government agencies.

- The absence of a clear national policy framework supportive of community forest management has made it difficult to resolve fundamental questions regarding the role of residents in managing the natural environment in which they live and subsist. Without enabling national policies, stakeholder dialogues and participatory management initiatives are limited to localized areas and pilot projects, constraining devolution and decentralization processes that could allow more effective systems of forest management to emerge. Thailand teaches us that much can be done in developing CFM initiatives without a formal national policy, but that it is also difficult to move forward with national management transitions without clear policies and a strong political commitment for their implementation.

CHIENG HAC COMMUNE, VIETNAM

Indigenous communities in the upper watersheds of Vietnam are adapting their forest management practices to a rapidly changing social, economic and demographic environment. Vietnam's 52 ethnic minority groups populate many of the nation's forest-dependent settlements. This case study draws on the experiences of the inhabitants of Chieng Hac commune, including that of Ban Tat, an upland Tai community, and of the Hmong of Khao Khoang, who reside in settlements 500 meters above their Tai neighbors.

These two villages are located in Son La province within the Da River Watershed in north-west Vietnam, one of the poorest and least developed regions in the country (see Figure 16). Largely isolated from the outside world until road links were constructed in recent decades, Son La province is now confronting new pressures on their environment from growing national and world markets and an increasing government presence in their lives.
HISTORY AND CONTEXT

Due to the steep terrain of the Da River watershed, only 6 per cent of the region's total land area of 2.6 million hectares can be used for agricultural production, with less than 2 per cent for irrigated rice cultivation. The topography is mountainous, with an average elevation of over 500 meters and a maximum of nearly 3200 meters. Eighty-six percent of the Da River watershed is legally classified as forest, however, and only 10 per cent retains good forest cover. The watershed contains 23 ethnic groups with the Tai, the most populous ethnic group with over 400,000 people, followed by the Kinh, and the Hmong, who each represent 18 percent of the region's population. The Da River watershed population grew from 320,000 in 1945 to 1.24 million in 1999, and is projected to reach 2 million by 2020. (Note 55)

In Son La Province, over 70 percent of the population is Tai which are organized around chau, the river valleys that historically defined the ethnic groups' political and administrative territories. The Tai are believed to have migrated into northwest Vietnam from southwest China 700 to 800 years ago who were seeking reliable water sources and valley bottoms to establish wet rice fields and fishponds, grow dry land crops and establish orchards. So great was the concentration of Tai in northwestern Vietnam and northeastern Laos that they formed a political confederation termed the Sip Song Chau Tai (Twelve Tai State Confederation). The Tai presence in Yen Chau, the current administrative center, is striking. Many district officials are of Tai descent including the woman who heads the present district people's committee. Fundamentally oriented towards irrigated rice cultivation, the Tai have been concerned with water resource management, irrigation channel maintenance, rotation of hillside crops, and the planting of grasses and trees.

During the past 30 years a growing number of the Kinh, members of the dominant lowland majority group that have traditionally inhabited the densely populated Red River delta, have moved into the Da River watershed motivated by the New Economic Zone policy of the 1960s and other programs. Many Kinh came to work on state forest enterprises, clearing large tracts of timber. It is estimated that up to 75 percent of the deforestation occurring over the past thirty years has resulted from state forest enterprises, collective logging operations, and migrant land clearing. Kinh population in the Da River watershed is concentrated near the provincial capitals of Son La and Lai Chau and around provincial agricultural and forestry enterprises.

The Hmong are believed to have begun immigrating into the Da River area approximately 300 years ago but the migration of these people from isolated regions of southern China into the uplands of northwestern Vietnam and across the border with Laos continues even today. The 170,00 Hmong of the watershed are concentrated in upper...
mountains and plateaus. They practice shifting cultivation on hill slopes, plant dry rice and corn, and grow opium poppies in the winter for sale or barter, though recent government policy changes have restricted this practice. The productive potential of the soil and water resources of upland Hmong communities is generally much less than that of the lowland Tai. To maintain the productivity of their farms, the Hmong shift their fields and their settlements periodically. One study of 170 Hmong villages in Bac Ha district in the Da River watershed found that 62 percent of the villages moved between 1974 and 1989. Although the government has established policies and programs as alternatives to shifting cultivation, it is not clear how far they can be implemented or what options are available for swidden farmers.

The Da River watershed has been profoundly changed by the construction of the Hoa Binh dam built between 1979 and 1994 at a cost of $2 billion. Damming the Da River resulted in the inundation of 200 square kilometers of surface area, extending 230 kilometers upstream. As a consequence, 58,000 people were relocated, largely Tai, Hmong, and other ethnic minorities. Displaced families, after losing their wet rice paddy lands and dry fields, had to open new forests, clearing 2,000 hectares annually and placing additional burdens on the watershed. Erosion levels and the heavy sediment loads filling the reservoir have increased to such a degree that engineers have been forced to reduce the projected life of the dam from 100 years to 50 years.

A second dam is being planned upriver from Hoa Binh near the provincial capital, Son La. If constructed, an additional 120,000 people could be displaced, with a further loss of productive agricultural land and even greater pressure on the upper watershed. While the second dam could provide much of the power needs for the transformation of the delta over the next 35 to 50 years, it would greatly exacerbate problems already faced by resident communities.

BAN TAT

The village of Ban Tat was established approximately 100 years ago, although the ancestors of most residents have lived in Yen Chau district for at least 300 years. Before 1954, the entire area was largely covered by old growth evergreen forest, with only seven families inhabiting the village. The original settlers depended primarily on irrigated rice cultivation, home gardening, and fish raising. By 1975 the village population grew to 76 families, and today there are 101 households in the community. Water shortages prevented the expansion of the irrigated rice area. The growth of the village required much of the surrounding forestland to be cleared for cassava and cornfields. In recent years, village households have gone farther into the uplands to open forests for additional dry land fields. In some cases they travel up to 7 kilometers from the community, which is located at 250 meters on the banks of the Sap River, up to elevations of 700 to 900 meters (see Figure 17).
Ban Tat village has a traditional system of forest protection under the leadership of an older man known as the Xompa (forest observer). The Xompa was responsible for overseeing forest use including: 1) ensuring the strict protection of upper watershed forests, 2) designating production forests and allocating selective cutting rights for housing and tools, and, 3) mobilizing the community to control forest fires (see Box 15). The Xompa system has disappeared in recent decades replaced by the increased authority of the commune over forest resources.

According to Mr. Lo Van Beo, the headman of Ban Tat:

We need more Xompa. The last Xompa was Mr. Quang Van Hien, born in 1904, and since he died we have had no new Xompa. We feel Xompa is a very useful part our Tai tradition. Many Tai villages in our to area had Xompa, not just Ban Tat. Now outsiders have come and the populations have grown. (Note 56)

Mr. Beo noted that before 1992, each village made its own forest use. He suggested that a new Xompa be chosen and that each household should assign one member for forest protection and management activities. Mr. Lo Van Lai, one of the oldest men in Ban Tat, echoed the headman's sentiments:

Most importantly, we must value highly forest protection and our village needs to promote this. We need to focus on the benefits of forest protection to local people. We need to reorganize the Xompa system with the support of the commune. As a second measure, we need to identify on a simple map, forests in need of protection and those we could use. (Note 57)
In the local Tai dialect Ban Tat means "the village with narrow paddy fields," reflecting the difficulties farmers have experienced in creating fields for irrigated rice. Of Ban Tat's 1,342 hectares, fifty percent is natural forest with extensive old growth and secondary forest visible on the ridges and hills above the village. Most of the remaining hectares consist of dry land fields under rotating fallow and cultivation with only seven hectares as irrigated fields. Most households in Ban Tat cultivate cassava and corn on the sloping land above the village, supplemented by cattle raising, small orchards, and fishponds. The community lives in large, raised wooden houses where 2 to 4 nuclear families reside. Most houses are clustered just near the road. The buildings are situated in large compounds with fruit tree and vegetable gardens in small bamboo-fenced enclosures. Each house yard possesses a fishpond with the animal pen situated on the side. Home gardens, aquaculture, and animal husbandry systems exchange nutrients efficiently and are highly productive sources of protein and vitamins, as well as important for generating cash.

The Tai of Ban Tat rely on nine major resource-use systems to meet their needs for subsistence foods and cash (see Figure 18). Each land utilization category has evolved to reflect the elevation, microclimate, soil, and water characteristics of specific environments. Important agroforestry and forestry practices include the following:

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**Box 15: The Xompa of Na Phieng, Vietnam**

Lo Van Haum was born to a Tai family in 1914. In 1945, Lo's family and two other Tai households left homes in a nearby village along the Sap River and cleared the dense forests to establish Na Phieng Village. At that time, most of the surrounding land was forested and tigers, wild pig, deer, and elephants inhabited or passed through the area. The old *Xompa* in the young families' village of origin chose the site for the new settlement. Lo was appointed *Xompa* for the new community because of his knowledge of traditional agriculture. As *Xompa*, which literally translates 'protector of forest,' Lo was responsible for ensuring that land, water, and forest resources were sustainably managed. Lo worked with household heads identifying upper watershed forest (Pa Dong) that would be closed to agriculture in order to prevent erosion or disruption of water flows serving irrigated rice lands and fishponds by the village. The *Xompa* also guided decisions concerning the location and length of rotation of upland fields, planting and felling of bamboo and timber, and the placement of forest fruit gardens. In addition, Lo advised farmers concerning swidden clearing, burning, and planting. During the 1970s, when the government required Na Phieng to communalize land management, the *Xompa* system was displaced by committee structures.

As the village expanded, forests were cleared for agriculture and aquaculture and today, Na Phieng has grown to 32 households. To protect upper watershed forests and ensure water delivery to the fishponds that generate a large part of household cash income, the community set aside 22 percent of the village land area as protected forest. Villagers report that since the mid-1980s, economic liberalization policies (*Doi Moi*) have allowed households to intensify fish production and mango orcharding. Much of the long rotation swidden land that regenerates as secondary forest and occupies 59 percent of the village territory is now being allocated for household forestry.

Many Na Phieng families are uneasy with the terms of new government forest lease programs, including recommended technologies. Some feel the new government land allocation contracts actually undermine their tenure rights, since these same Pa Loa and Pa Kai lands in the past had been allocated under the traditional *Xompa* system to village households. Lo and other village leaders feel there is a need to reestablish the *Xompa* and related Tai resource management institutions in order to reconnect local traditional and emerging land use practices with government programs. Local Tai acknowledge that there are also problems with forest fires started during agricultural burning or by careless hunters, and that indigenous forest protection groups could help protect their important watershed forests. Reinstituting the *Xompa* could strengthen community controls over resource use that are badly needed.
Dry upland orchards are termed Hay Mac, much of which is planted in mangoes. It is likely that these lands were once dry land fields used for cassava (Hay Co) which were planted with fruit trees at the end of the dryland cropping cycle.

Bamboo forests, called Pa, are located on the foothills behind the village at elevations between 600 and 800 meters. In 1976, the bamboo groves were expanded when a group of ten households planted an additional 15 hectares. Bamboo poles are harvested and shoots are collected both for domestic needs and the market.

Young regenerating forests are often located on fallow dryland fields (Pa Loa). Usually found on sloping land and covered with one to ten-year-old shrubs and saplings, this land had earlier experienced a two-to five-year agricultural rotation. In some cases, if its nutrients are overly depleted because of overlong cropping or excessive burning, the land becomes dominated by impala grass. In better sites young secondary forest emerges.

Secondary forest between ten and twenty years old is referred to as Pa Kai. These forest types are usually located on fallowed upland fields that require a long period of regeneration to restore site fertility.

Primary or old growth forest is called Pa Dong. These forests are usually located on ridge or hill tops. The Tai understand the need to protect the upper watershed to ensure reliable and even flows from springs to downstream rice fields and fishponds. In many cases these forests are also located on steep limestone bluffs where farming is impractical. Some Pa Dong are believed to be the home of spirits and ancestors.

Villagers in Ban Tat see a number of threats to the forest such as opening new cassava fields in sites that are too steep or that lack adequate soil fertility. Forest fires are also a danger, both those that escape when agricultural fields are burned in preparation for cultivation, as well as those set by hunters. The natural regeneration of forests in the area has also been suppressed by past commercial grazing in the highland watershed.

Village elders in Ban Tat note that it is between October and April when farmers clear and burn the forest in preparation for planting, that the need for fire protection is the greatest. Community members report that they are learning to control forest fires more effectively. Before 1982, there were about 20 fires a year in Chieng Hac commune, but during the 1990s averaged about 10 fires a year, each burning approximately 10 to 20 hectares.
Black Tai elders of Ban Tat Village, Vietnam discuss forest and land management issues, after a housewarming ceremony

Ban Tat elders say that some community members are angry because they are not allowed to open new swidden fields; in some cases they have set forest fires to protest these regulations. Community leaders say they want to gain greater legal authority over their upland agricultural and forestlands to ensure spring flow and water availability. Ban Tat elders want greater authority to decide which lands should be reserved for watershed conservation and which could be opened for agriculture, rather than leaving it up to government officials. They are especially interested in ensuring the continuing availability of useful timber species.

In a neighboring commune, ten Tai villages protect over 1000 hectares of forest that are a critical source of water for rice lands and fishponds. A 12-member committee was formed to handle forest management. Activities include fire protection, land use planning and classification, division of forest area among the villages for protection, and issuing permits for forest exploitation. Illegal burning or cutting may entail a fine of $3 per square meter, for bamboo $.05 per shoot, and for timber $2-$5 per tree. In 1995, the commune was able to plant 29 hectares of teak, with seedlings being provided by the Nai Yon Forest Enterprise, in the uplands and 14 hectares of longan (fruit trees), whose saplings were supplied by the Forestry Extension Unit.

The Tai of Ban Tat coordinate forest management activities with the Hmong communities to the north. The Hmong villages of Chi Dai and Khau Khoang have their own traditions of forest management, reflecting their unique culture and the natural environment at 1,000 meters elevation.

KHAU KHOANG

Khau Khoang and two other Hmong villages are located among the limestone bluffs above the village of Ban Tat, at elevations of 850 to 1000 meters. The small upland valleys and plateaus the Hmong inhabit are perched behind a ridge, separating them from Ban Tat. The high, limestone bluffs are covered with dense, old growth evergreen forests and below these are maize fields and dryland paddys.

The original Hmong settlers of Khau Khoang came from Lao Ki Tao in southern China 300 years ago. Khau Khoang has 28 families and is located near several small springs found mid-way up the valley walls. According to Mr. Vang Lau Zenh, the village headman of Khau Khoang, until the 1940s, elephants were still present in the area and tigers roamed during the early 1960s. These large mammal populations are now depleted. However, bears searching for honey and other food occasionally move through the forests by the village, while red-faced monkeys are relatively abundant. Several families settled Khau Khoang in 1954 and, in 1960, six more families moved from neighboring Chi Dai and a cooperative was established.

The Hmong farmers of Khau Khoang are currently changing their agricultural system from long rotation swidden cultivation to sedentary agriculture, which involves the clearing of some secondary forest growth. This change is also driven by the expanding community population, the growing shortage of forestlands that can be converted for agriculture, and government policies that discourage shifting cultivation.

The Hmong families of Khau Khoang are poorer than the Tai, their neighbors at lower elevations, since they have few irrigated rice fields or fishponds and are primarily dependent on corn cultivation, supplemented by dry rice. Bananas and taro are planted on the upper sides of dryland fields. Squirrels and small birds are hunted in the
forests, while chickens and pigs are raised in the settlements house yards. The villagers also collect medicinal plants and fuel wood from the forest. Some families also keep a few cattle and many own one or two horses for transportation and plowing.

A major source of cash income is cinnamon bark collected from wild trees in the old growth forests. Cinnamon sells for $1 (Doug 2500) per kilogram in local markets and men and children are still able to collect 30 to 40 kilograms in a single trip. A few Hmong farmers, including Mr. Zenh, are having some success with the cultivation of coffee, apricots, plums, and peaches in the house yards. In the past year, a fishpond has given satisfactory returns and others are now experimenting with fry bought in the town. Poor water supply and distance from market are critical limitations that have yet to be addressed. Twenty years ago a government-supported school offering classes through the third grade was established in the neighboring Hmong village of Chi Dai, using Vietnamese as the language of instruction. While two students from the village are now in the commune's central school at Chieng Hac, most village children do not study beyond the third grade.

Since 1991, no opium has been grown in Khao Khoang. No new fields have been opened in the high mossy forests above the village. The opium ban has had a drastic effect on the incomes of local villagers. According to local informants, a 1-hectare harvest used to yield as much as 5 kilograms of opium with itinerant traders paying $80-$100 per kilogram of opium in the early 1990s. In the wake of the government ban, efforts were undertaken to transform Hmong agriculture. Apricot tree seedlings trials were planted on a model farm near the village, one which also included a fishpond and some very small irrigated rice fields. Several families have dug fishponds, while the apricot trees, which seem particularly well adapted to lands formerly planted to poppy, have thrived. Yet, market access remains a constraint, as does capital for commercial expansion.

Forestry Production and Management

Mr. Zenh, the village headman of Khau Khong, reported that the Hmong community is intensifying efforts at forest protection and discussing resource management with neighboring villages. In the 1970s, the Hmong began placing fighter controls on field burning by requiring farmers to cut a fire line above the field and positioning someone in the break to Prevent the fire from escaping upslope. Delineation of the territorial boundary of Hmong community land was conducted in 1994, apparently as part of the forestlands allocation program. In 1995, Mr. Zenh, who knew the Tai forest stewards, or Xompa, in neighboring communities, began establishing a forest protection committee for the Hmong community. He also sought formal recognition from the commune.

Khao Khoang is situated directly adjacent to a forest comprised of both old growth forest and younger secondary vegetation. Community leaders are trying to impose stricter forest use regulations on residents and outsiders, though hunting and gathering continues to constitute a major village enterprise. Medicinal plants are gathered in the forest, but the availability of other resources is declining. The village leader has informed the community that the forest is protected, violations will be punished, and that three groups have been formed to monitor the area. Forest Protection efforts have helped in reducing exploitation as well as fire damage. In the protected forest only dead wood can be collected; one farmer was recently fined 15,000 VND ($1.30) for cutting bamboo.
Community leaders have also attempted to control hunting. In one case, the villagers tried to restrain outside hunters from killing a bear who lived on the mountain above the village but, according to Mr. Zenh, the hunters succeeded in killing the bear because the community lacked the authority to stop them. He said that the commune needed to give them greater responsibility for protection. He felt once they had reached an agreement regarding forest use regulations with their neighboring villages that the commune should recognize the new protection system. Mr. Zenh believes protection can be done on a volunteer basis, and that effective access controls can lead to natural regeneration, though without support and incentives from the commune it will be difficult to sustain the group. He has proposed that some commune tax revenues from dryland farming, paddy, and fishponds be used to help finance the Hmong communities’ forest protection activities. Mr. Zenh is negotiating with one downstream Tai community to explore possible compensation for Hmong forest protection efforts and the assurance that needed water will be delivered.

Mutually supportive resource management agreements between ethnic groups practicing different land use systems within the same watershed may be necessary to minimize future conflicts. Government policies and programs should be designed to facilitate local dialogue and generate agreements between user communities. By examining the process through which agreements are made between communities in areas like Ban Tat and Khao Khoang, planners can identify critical needs and issues and construct frameworks for practical cooperation.

**Land Allocation Programs**

Over the past five years, the Son La district government has been implementing a land allocation program under the 1993 Land Law. In Ban Tat, Khao Khoang, and the other nine villages in Chien Hac Commune, some upper watershed forest plots are being placed under household stewardship. Formerly, the upper watershed forests were divided among the eleven villages, and came under the supervision of the respective communities, although legal control remained with the commune administration.

The Tai settlement of Na Phieng was one of the first villages in Chien Hac commune to be chosen for allocation of forestland and almost all of the 33 households have received land. The village has a total area of 312 hectares of which 56 percent is old growth forest and bamboo leaving over 44 percent of prospective land for allocation. Many community leaders feel it is better to not allocate all the land to households at this time, but to maintain older secondary and primary forest under community management.

Na Phieng, like other Tai communities in the area, once had a Xompa who coordinated forest protection, but under the new government program three families have received formal contracts to protect the forest. It is unclear how shifting forest management from the traditional Xompa system to the government-sponsored household forest protection scheme will work. In the past the Xompa was responsible for representing communal interests, but the current policy shifts this authority to the households to hopefully better reflect family needs. And, there are also concerns within the community that forestland allocations are inequitable and can favor certain families over others.

In neighboring Chiang Mai commune, experiences with land allocation have been mixed. Mr. Quang, the commune chairman, attempted to work through the village managers to explain the new law and gain the cooperation of member villages. He feels that land allocation has had two main benefits: by redistributing agricultural land more equitably and by initiating a more systematic resource planning process. Reallocation has also helped to clarify village boundaries and define protected forest areas. Mr. Quang opposed the allocation of forestland to individual households, however, believing instead that the communities should manage them. The village managers have also issued a ban on the sale or transfer of land without the commune’s permission. Community leaders are concerned over the growing commercialization and privatization of village land and resources. Mr. Quang says it is important to prevent villagers from selling their land in order to buy consumer goods because these same families will later ask to be given more land for fanning. He is also concerned that village land will become a commodity and that outside speculators will begin taking control of the area, leading to commercial disputes.

**LESSONS LEARNED**

Vietnam's national planners are keenly aware of the need for strict watershed management through forest protection to meet the various goals of the lowland communities. Until now, the government has invested heavily in programs to promote hydropower development, reforestation, resettlement, and sedentarization. While these policies have brought benefits, they have also upset the resource management systems of the ethnic minorities of the Da River watershed, especially those of the Hmong, Dzao, and other upper watershed communities, leaving them with inadequate food sources and reduced alternatives. The ban on opium is a further, though secondary, issue affecting the Hmong in particular and the upland economy in general. Successful policies that can stabilize the Da River watershed must inevitably respond to the needs of the Tai, the Hmong, and other ethnic minority groups. The case studies of Ban Tat and Khao Khoang demonstrate several important lessons:

- Due to social, cultural, and technological differences in the way each ethnic community approaches forest management, the government needs policy and programmatic flexibility to respond to diverse and distinctive forestlands use and production strategies.
• The government should consider developing policies and programs that support traditional organizations that can strengthen forest protection and management activities by recognizing ancestral lands and providing financial support to indigenous institutions where appropriate.

• For government policies and programs to interface successfully with indigenous land management systems they need to identify and be compatible with local land classification and use systems, distinguishing those held under community and household control.

• New forestland allocation policies to transfer rights to households can be used effectively in the case of forest gardens and long rotation farm plots. However, communally managed upper watershed forests need community-based tenure mechanisms.

• In upland regions, especially those inhabited by ethnic minority groups, policies and programs need to respond to requests for greater communal authority over forestlands, as well as information and capital that will allow farming families to intensify food and tree crop production.

• Government policies and programs that support inter-community negotiations to work out formal agreements on resource control and clarify lines of management authority have been well received by community leaders in Chieng Hac Commune. Holding participatory mapping exercises that include neighboring communities within a sub-watershed can assist in clarifying territorial boundaries and management responsibilities.

**SUMMARY**

Over one hundred million people living on the mainland of Southeast Asia or along the region’s archipelagos interact with the forest on a daily basis. The cases presented here illuminate a few of the many hidden faces of forest management in Southeast Asia. For the most part, the forest-dependent communities of the area are only beginning to find recognition under national government laws and policies. For generations, their ancestors have worked in the forest habitat to create a life for themselves, their children, and their descendents. Their cultures have evolved with nature, incorporating the physical environment into their spiritual beliefs and group identities. It is not surprising, then, that villagers often reflect that without the forest they are no longer a people and that their unique cultural identity will disappear if the forest is destroyed or if they are separated through resettlement.

In Ya Poey Commune, Cambodia, indigenous forest communities practice a dynamic yet sustainable form of long rotation farming within the forest. The communities and their forest management systems are currently threatened by timber and estate crop concessions held by foreign firms and urban-based elite. With local government and NGO support, a new community alliance was formed to strengthen the villager’s capacity to protect their rainforest homelands.

But, a central authority that seeks to raise foreign capital through the sale of logging rights now threatens this initiative. The absence of a national community forest management law recognizing customary rights, combined with a competing national policy aiming to attract foreign investment for natural resource exploitation, places many rural communities in conflict with government and the private sector over resource ownership.

In Krui, Indonesia *damar* forest gardens provide an impressive income flow for local families, in addition to creating a habitat that supports many endemic species. Indigenous cultural institutions are adapting their management structures and regulations to allow household control over production and assets, while insuring that traditional *adat* codes of forest protection and management continue to be followed. Pressure from expanding palm oil estates that are displacing millions of hectares of natural forests threatens even the productive forest gardens of Krui. An alliance of scientists and NGO staff has assisted communities in Krui to strengthen their position through documenting these remarkable agro-forestry systems, mapping household forest gardens and communal lands, and ultimately winning formal recognition from the government of Indonesia.

Like Krui and Ya Poey, the inhabitants of Ban Khameuy, Laos are heavily reliant on their forests for subsistence needs and cash. The creation of a National Biodiversity Conservation Area covering much of their traditional lands has confronted them with new use restrictions. Lack of a clear agreement regarding use rights has also created potential conflicts with neighboring communities. The Lao PDR government program for land allocation and planning has helped to reduce tensions by engaging local communities in a participatory mapping process. The involvement of the IUCN-sponsored NTFP Project has further ensured that community issues are voiced and heard by managers of protected areas and by local government. A National Village Forest Law that recognizes customary community institutions and forest management rights supports the dialogue process in Khameuy. While this case demonstrates how community forestry policies can be implemented within protected areas, it also indicates that they will require consistent support from policies and programs to succeed.
The Philippines possesses one of the most comprehensive community-based forest management (CBFM) policy and program frameworks in Southeast Asia. Designed to respond to the needs of migrant farmers, forest-dependent communities, and indigenous peoples, CBFM has been accepted as the primary strategy for upland management. The case study from the Pantaron Mountains on the southern island of Mindanao exemplifies how indigenous cultural communities are being authorized to manage extensive tracts of state forestland under the authority of CADCS. With help from ESSC, Bukid-non leaders in Bendum are re-establishing their cultural identity and strengthening ties with neighboring villages to respond to the growing immigration of Dumagat lowlanders. In nearby Agusan del Sur, 14 small Manobo communities have just received a 51,000-hectare CADC, yet they presently lack the leadership and solidarity to jointly decide how to manage this vast resource, while government agencies and foreign investors are eager to dictate priorities. In the Pantaron Mountains, as in many places in Southeast Asia, the process of devolving authority to local forest-dependent communities will require time and investment in strengthening traditional institutions and creating new capacities to manage forest resources in an effort to withstand outside encroachment.

As in many of the other case study sites, Chom Thong, Thailand features an ethnic minority who has inhabited the region's upland watersheds for years. Their lowland neighbors, as well as the composition of the national government, are largely comprised of ethnic Thai, often unfamiliar with the ways of the hill tribes and their land use systems. Growing demands from lowlanders for more water for agriculture, urban centers, and industry are resulting in increasingly restrictive management requirements in upland watersheds, the home of the hill tribes. At the same time, a new generation of urban-based conservationists is eager to see Thailand's remaining forest preserved, even at the cost of resettling resident peoples. The Karen, the Hmong, and other upland communities recognize that they will need to adapt to survive. They are changing their agricultural systems in the upland villages above Chom Thong, not only in response to market demands, but also to minimize the impact on the forest and on water resources and to meet the expectations of lowland government officials and farming communities. Kor Gor Nor, or the Northern Farmer's Network, reflects the parallel desire of some hill tribe communities to create an identity, promote solidarity, and to participate in the upland management dialogue as a significant stakeholder. Given the situation a decade or two ago, although the absence of a community forestry law in Thailand continues to inhibit a clear approach to upland management in the north, the strategy has been remarkably successful.

In northwestern Vietnam, the Tai and Hmong communities of Chieng Hac commune retain many features of their distinctive cultural traditions and land use systems. A four-fold increase in population over the past 50 years has required an intensification of agricultural production, as it has throughout much of the region. At the same time, expansion of farming into the forests has already incorporated most of the available land. The Hoa Binh dam inundated much of the region's best farmland, flooding villages along the valley bottom and pushing the inhabitants up the watershed. Although the socialist government has devised new administrative structures that have displaced traditional communal institutions to a considerable degree, the cultural identities of upland groups remain strong. The communities of both Ban Tat and Khao Khoang have expressed the need to resurrect communal authority over upland watersheds and forests, opposing government policies that currently target households and cooperatives. Mr. Quang, the commune chairman, favors communal forest management and is working with long-standing community leaders to better define village boundaries. All communities within the commune have agreed to ban private sector land speculation while they continue to seek greater autonomy to manage local forests and form volunteer committees to Protect themselves against forest fires, illegal hunting, and logging. Mr. Zenh, the Hmong headman from Khao Khoang, notes that if uplanders are not compensated for protecting the upland watersheds to ensure the continuity of water for downstream communities, they should at least be allowed to keep their tax revenues from agriculture. The issue of compensation for upstream resource managers by downstream users remains relevant throughout the region.

As a group, these cases present a strong argument for the protection of the rights of forest-dependent peoples. While the forest use practices of upland peoples impact the environment in both positive and negative ways, the experience with mining, logging, and plantation management alternatives strongly suggests that community-based practices are more sustainable and far more equitable. These two policy directions are present, and almost always in conflict, in many Southeast Asian nations. Greater clarity is required on the part of national planners and development agencies regarding how to structure a policy framework that promotes sustainable management responsive to the needs of local communities and the larger society. In response to the Asian economic recession, many nations are giving even greater emphasis to foreign investment. Failure to proceed with systematic programs to devolve formal authority for forest management to local user groups perpetuates a power vacuum that increases the vulnerability of natural resources to unsustainable exploitation. The elimination of regulations and programs designed to protect the rights of indigenous and forest-dependent communities jeopardizes many local systems of resource use and control that have helped to ensure the stability of Southeast Asia’s resources for generations.
Notes


41 The term "upland" is used to refer to communities and villagers located on the mid and upper slopes from about 400-800 meters, and on the ridges in the highlands above 700 meters.


43 Chusak Wittayapak, "Political Ecology of the Expansion of Protected Areas in Northern Thailand" presented at the 6th International Conference on Thai Studies, Chiang Mai, Thailand, October 1996.


46 Ibid. p. 12.


48 Ibid. p. 13.


50 From a personal interview with Jorni Odechao, first Northern Farmer's Network Chairman


52 Ibid. p. 16.

53 From a personal interview in May 1997 with Yee Laowang, Pa Phai Village


55 Nguyen Duy Khiem and Paul Van Der Poel, "Land Use in the Song Da Watershed" Social Forestry Development Project (Hanoi: SFDP, 1993) p. 18

56 Ibid.

57 Ibid
As we approach the end of the twentieth century, a fundamental forest management policy question is who should control the natural resources of Southeast Asia? Policies in most nations continue to be based on a normative ideal that state institutions can effectively govern huge areas classified as state forestland. (Note 1) Throughout the region, government forestry practices, supported by national laws, have resulted in a rapid depletion of these natural ecosystems. Yet, despite the rapid disappearance of the region's natural forests and the growing dependence of many rural families on the natural forests for their livelihood, many Southeast Asian nations continue to stress foreign investment, industrial logging, mining, and estate crops as vehicles for national development. Rarely do national governments or international agencies question the authority of the state to hold exclusive rights to forestlands, regardless of the level of corruption, destruction, or management incompetence. While for decades upland communities took the blame for deforestation, the massive amount of research conducted in recent years, a small part of which is reported in this text, indicates otherwise.

The failure of the state forest paradigm and the flawed policies and laws that support it is reflected in the loss of 2 to 4 million hectares of forest each year, throughout the region, in the last decade alone. Today, only six percent of the land area across Asia is covered in primary forest. Much of the remaining forest areas are being modified, fragmented, or planted with exotic species, with a substantial proportion of the intact forest ecosystems under moderate to high threat. (Note 2)

In the Philippines forest cover has fallen from 70 percent of the land cover in 1900 to only 20 percent today, with less than 3 percent old growth forest remaining. In Indonesia, over 65 million hectares of forestland has been leased to a small group of companies. Since the 1970s, 46 million hectares have been deforested, primarily through industrial timber harvesting, plantation establishment, fire, and migrant farmers who follow logging roads into the forest. Of Vietnam's 17 million hectares of officially designated forestland, only 1.5 million is classified as being in good condition. Nearly 70 percent of Cambodia's forests have been leased to ten to twenty major logging concessions, yet the government is able to capture only 10 percent of the potential timber revenues from both legal and illegal operations.

Of all the shortcomings of the state forest management paradigm, one of the greatest consequences has been the disempowerment of highly localized, community-based systems of forest use and control. In the past century, as the role of communities in forest management has been eroded through state nationalization and industrial use, an estimated 360 million hectares, or approximately one-half of the region's forested area, has been lost. The increasing influence of government, the nationalization of forests, and the leasing of logging rights to concessionaires have all contributed to the erosion of community-based resource controls and the displacement of local systems of forest management in many parts of Southeast Asia.

Upland dwellers have been stigmatized as illegal encroachers or squatters on state land, irresponsible practitioners of slash and bum agriculture, and criminals subverting the state. National leaders, urban populations, and the dominant lowland majority often view forest dwellers and ethnic minorities as culturally backward, illiterate primitives whose only salvation lay in the abandonment of traditional lifestyles in favor of integration. As industrial logging has grown in volume and extent, local communities are often used as scapegoats for the ensuing forest loss. Swidden farming systems are poorly understood and frequently demonized as the primary cause of deforestation. Many early upland policies and programs focus on resettling forest communities or forcing local residents to abandon long rotation agricultural practices. Today forest peoples are often among the poorest members of the society and, because of their isolation, have less access to markets, jobs, education, and health services. They are often poorly represented in political circles. Disempowered and impoverished, many forest communities are vulnerable to powerful government and private sector interests seeking to take control over their local resources.

**PERSPECTIVES ON STAKEHOLDERS**

While the failure to meaningfully involve communities in forest management has been identified as an important underlying cause of deforestation in Southeast Asia, as well as in other parts of the world, progress in addressing this problem has been constrained by the diverse, often conflicting perspectives of forest sector
stakeholders. A brief review of the various stakeholder positions in government, international development banks, bilateral assistance agencies, private sector, the civil society, and forest-dependent communities follows. Important issues emerging in this report are summarized at the conclusion of each stakeholder discussion.

GOVERNMENT

In the past decade, Southeast Asian governments have begun to explore ways to extend greater recognition of the rights of communities over forests. The process is complex, both legally and operationally, and, as a consequence, progress in devolving rights has been slow. Few governments have been able to demonstrate the political commitment to tackle the problem of forest tenure insecurity. And where the efforts have been sincere, as in the Philippines, political changes, vested interests, and conflicting policies often undermine headway. While national governments and communities possess many legitimate objectives for forest management, such as watershed protection, biodiversity conservation, sustaining local communities, creating jobs, supplying raw materials to industry, generating hydropower, and attracting foreign exchange, inevitably some management goals take precedence over others. Sometimes, the development goals in one sector are not compatible or are in direct conflict with those from another sector. These fundamental conflicts, that are demonstrably present in national and international development policies and programs, have slowed and undermined efforts to engage communities in managing the region's natural forests.

Many government policymakers face two distinctly different forest management options: one that prioritizes macroeconomic development based on open markets and the attraction of foreign capital and another based on decentralized models of community management. While free trade and supportive foreign investment policies are widely supported by governments and development agencies, planners are also aware that achievements in macroeconomic growth needed to be balanced with the requirements of the rural poor and the environment. Throughout the 1980s, the growing voice of community activists and conservationists stressed the rights of forest-dependent peoples and the protection of the rich forest ecosystems of the region. Hundreds of millions of dollars in development assistance began flowing into Southeast Asia in the form of social forestry projects, sustainable upland development initiatives, non-timber forest product studies, community woodlot initiatives, and national protected area strategies. Based on numerous studies, pilot projects, reviews, and workshops, a clear picture of the tenuous position of forest-based communities came into focus. Initial perceptions that linked upland deforestation and poverty primarily to inappropriate swidden farming technologies and under capitalization, were found to be faulty. Development planners and project managers came to see the wisdom of NGOs and researchers who insisted that an underlying cause of deforestation was the absence of forest tenure rights and responsibilities formally granted by government to resident communities.

At the same time, many political leaders are reluctant to decentralize and most foresters are still uneasy about releasing control to local groups. Governments have been well served by the status quo and have grown accustomed to holding ultimate authority over rural resources. Reflecting the inherent inconsistencies in the perspectives of government forest management strategies, Charles Bailey comments that in Vietnam, "the present national policy offers the potential of handing over large tracts of state forestlands to households in the uplands on 50-year leases ... however, the state forest enterprises are reluctant to transfer land with actual trees on it." (Note 3) The need for decentralization is clear to many government planners, but it is also apparent that state agencies resist the allocation of their authority to lower levels. Clear, unequivocal policies are needed to facilitate devolution processes, with monitoring mechanisms established to evaluate progress and provide stakeholder feedback.

Across the region, many government resource management agencies continue to seek massive foreign investments for large forestry sector projects. While community forestry rhetoric is increasingly a component of new initiatives financed by development agencies, the past effectiveness of such programs, both in forestry and human terms, has been disappointing. Strategies that failed in earlier phases are often repeated because they have not incorporated learning from prior experiences or because even though a project may fail to achieve its stated objective, it may accomplish other goals of some stakeholders. Tony La Vina, earlier with the DENR and now with the World Resources Institute, is concerned that recent proposals for new "timber corridor" projects in the Philippines are reminiscent of the unsuccessful Industrial Forest Management Agreement projects of the early 1990s. He writes, "Government tried this mechanism for reforestation. Not only did it fail massively, but it became an excuse for cutting natural forests, often mis-classified as inadequately stocked forests, and displacing indigenous peoples." (Note 4) This report concludes that Southeast Asian governments will need to address questions of forestland tenure policy and the rights of forest-dependent peoples, as well as corruption, before financial and technical investments can yield satisfactory results. Some important issues regarding the state perspective are highlighted as follows:

- While most government forest and land policies provide limited or no recognition of traditional tenure
systems or indigenous forest management institutions, when governments do provide some recognition our case studies show that it enhances the stability of local groups and the natural environment. By including forest-dependent communities in the management process, opportunities for utilizing the largest stakeholder group that has the most to gain from sustainable forest management is maximized.

- Government forestry agencies are in varying stages of transition in developing the policies, attitudes, and capacities to support community forest managers, rather than attempting to directly manage the forest alone. Yet, forest departments confront a dilemma when political pressure and development agencies require they transfer their authority to local communities. In each nation, some forestry professionals are moving forward with devolution processes while others resist.

- Government recognition of the ancestral domain claims of indigenous peoples has been a significant step toward clarifying resource rights, and with appropriate supportive programs, should help stabilize upland watersheds.

- Government policies and programs that have allocated state forestlands to households that are suitable for agroforestry development have often successfully encouraged local investment.

- Attempts to resettle lowland people in upland watersheds and forest areas have frequently created conflicts with local residents and resulted in accelerating forest clearing.

- Government sponsored efforts to engage villagers in mapping local forestlands have helped clarify management territories, reducing the chance of future conflict between communities and with outside actors. Community forest mapping methodologies are being developed in the Philippines, Laos, Thailand, and Indonesia that could provide a process for nationwide public land reform, if made a national priority.

INTERNATIONAL DEVELOPMENT BANKS AND BI-LATERAL AGENCIES

Development agencies are struggling to clarify their own strategies in dealing with rural communities and resource management. As this report goes to press, the World Bank is reviewing its international forest sector policy, as well as its forest program support strategies in Cambodia, Indonesia, and several other countries in Asia, with substantial input from selected NGOs. Community forestry is prominent on the agenda. Yet, while participatory management and resource conservation have gained popularity with donor agencies in recent years, donors overwhelming accept the logic and legitimacy of the state management paradigm and regard industrial logging as a necessary, if not highly desirable component.

There is growing recognition by development agencies that policy reforms and programs need to give greater emphasis to the role of forest-dependent peoples as natural resource stewards, but other strategic and operational priorities of development agencies may conflict with this goal. The $60 billion IMF loan to Indonesia, for example, discourages the clearing of additional forestland in the country but, at the same time, demands that all restrictions on oil palm plantation expansion be eliminated. The World Bank voices concerns over the conditions of forest-dependent peoples in Cambodia, but also helps government planners to run industrial logging operations more efficiently and secure a better revenue stream from large-scale extractive enterprises. While multilateral agencies are concerned about ways to enhance a recipient nation's financial position, especially after the devastating region-wide economic recession of the past two years, these short-term gains may carry significant social and environmental costs in the future.

Bilateral agencies are under pressure to demonstrate that their development investments generate local employment and income. The USAID emphasis on income generation pushed project managers to accelerate timber extraction in Lianga Bay in eastern Mindanao, resulting in overcutting of community-managed forests. The Finnida/World Bank FOMACOP project in Lao PDR is attempting to bring community forest managers into commercial timber production within two years, even though communities need time to reach consensus regarding their own forest management goals as well as to develop new skills. While many rural development projects have attempted to integrate communities into commercial timber harvesting operations, few have succeeded. For the most part, the forest requirements and use systems of local residents are not compatible with the goals of industrial logging operations. More generally, it is apparent that differences exist between the goals of development agencies and their administrative needs, and the views and capabilities of many forest-dependent communities. Even more problematic, development agencies have little capacity to encourage community forest management in the absence of a supportive legal framework. While development agencies have been successful in encouraging some Southeast Asian countries to experiment with forest policies that extend greater management rights to rural communities, ultimately donors have limited authority to shape national policies. Some important issues regarding the international development bank's and bi-lateral agency's perspective are highlighted as follows:
Multilateral development banks have conflicting policies regarding their management approach to natural forestlands and forest-dependent peoples. Encouraging the removal of barriers to foreign investment in natural resource extraction, while financing projects to promote forest conservation and community management, are often in conflict. Greater internal policy consistency within these organizations regarding forestry sector strategies would enhance the impact and effectiveness of investments.

Development assistance agencies operating in Southeast Asia are demonstrating increasing interest in community forest management and are shifting their emphasis from technical issues and questions of financial investments to place greater importance on forestland conflicts, tenure issues, and sectoral policy failures and needed reforms.

Development assistance agencies are increasingly cooperating to share information and discuss modes of collaboration to help national governments transition from dominant state forest paradigms to community-based forest management strategies. Establishing ongoing mechanisms for stakeholder dialogues would facilitate information exchange and provide a better platform for collaboration.

PRIVATE SECTOR

Timber companies, marketers of NTFPs, forest laborers, and other segments of society value forests for the profits that they generate and the jobs they create. Yet, private sector actors are diverse and operate in very different ways, especially in how they relate to forest-dependent communities. The industrial forestry actors can be broadly divided into “private sector firms managing their own resources, multinational forest companies buying long-term concessions, and migratory logging companies which harvest in one region and then move on to another more profitable region.” (Note 5) With the international timber trade now in excess of $100 billion annually, the private sector has a powerful economic leverage in shaping national forest policies to meet its needs. Concentration of power in just 40 companies that now control some 115 million hectares of forests worldwide through concessions, leases, and licenses allows the larger private sector actors to consolidate their hold over forest resources in some nations. Maintaining access to forest resources is a key requirement of the industry. Some private sector stakeholders have a particularly harsh impact on forest-dependent communities in Southeast Asia. Migratory logging companies have demonstrated little interest in supporting the local economy, while showing little respect for national timber harvesting regulations and codes of conduct. (Note 6)

At the same time, small operators are often quite stable and respond to domestic market demands. In such cases they may be critical links in the supply of raw materials to furniture makers, carpenters, and other industries. Due to their limited political and economic influence, small private companies involved in timber and non-timber forest production are often unable to compete with larger corporations. When national agencies crackdown on private sector timber operators, it is often the smaller companies that suffer. This appears to have occurred recently in Cambodia when several hundred small saw mills were closed. Some governments and non-governmental organizations are attempting to encourage the private sector to respond to the needs of forest-dependent peoples and have adopted more sustainable forestry practices through negotiating both mandatory and voluntary codes of conduct. In Java, the State Forest Corporation has sought and received certification from the Forest Stewardship Council after Smartwood, a private certification firm, conducted a field assessment and review. Such mechanisms may provide opportunities for stakeholders with different goals to find a basis for collaboration. Some important issues regarding the private sector’s perspective are highlighted as follows:

- Transnational timber corporations, especially those that rely on migratory practices to dodge government regulations and maximize profits, are a significant threat to forest-dependent communities and the natural environment.

- Smaller wood and non-timber forest processing and marketing companies can be important components of the local economy, providing opportunities for trade. Such private sector initiatives can establish viable, long-term relations with forest-dependent communities, offering a source of investment capital, technology, and markets.

CIVIL SOCIETY

The civil society is an emerging stake-holder in the forest policy debate. A diverse group of NGOs, including conservation associations, environmental groups, media, human rights organizations, religious bodies, and many others are all increasingly engaged in the forest management dialogue. Over the past 10 years, forest management issues are becoming a growing topic of public debate in many Southeast Asian countries, as deforestation impacts not only the 100 million upland residents of the region, but an even greater number of people downstream. Inhabitants of Manila experience power shortages and brownouts while Bangkok
resident movements, urban-based environmental groups have become dependent communities in communities. Some important issues regarding the civil society's perspective are highlighted as follows:

- Grassroots NGOs, university-based researchers, and the media are effectively assisting forest-dependent communities by aiding them in communicating their concerns and needs to governments and development agencies. In some cases this has involved establishing mechanisms for stakeholder dialogue and conflict mediation.

- Grassroots NGO and university-based researchers are providing an important service to communities and government by documenting community forest use practices and institutional arrangements. Empirical descriptive studies and field mapping provides an enhanced information base to facilitate the interface of formal systems of state forest management with community forest management systems.

- Urban-based conservation NGOs and the media are creating a civil society discourse regarding the importance of environmental protection and the need for sustainable management. In some cases, this movement is at odds with community forest management strategies, but in other national contexts it provides a basis for strategic political alliances.

**FOREST-DEPENDENT COMMUNITIES**

Upland communities and indigenous peoples have been the hidden faces and unheard voices in national forest policy dialogues. According to one analyst, "while so many interests covet the rich land and forest resources, the forest dwelling people themselves are too weak and too far from power to insist on a more just and rational management of local resources." (Note 7) But, this is beginning to change as forest-dependent communities in Southeast Asia speak out more clearly regarding their rights and the need for policy reform. As the community case studies in Part V indicate, forest-dependent groups are organizing at local levels and seeking greater formal authority to control their resources. Communities are creating numerous strategies to deal with external threats to their water, forest, and land resources often without any outside support or assistance.

The case studies describe processes of networking and alliance building with neighbors, mediated dialogues with government, collaborative projects with NGOs, as well as internal community efforts to improve the sustainability of local forest use practices. While many forest communities are struggling to accommodate government, migrants, industry, and neighboring settlements they are also gaining their own, independent political voices. Recently, in March 1999, the Alliance of Indigenous Peoples of the Archipelago (AMAN), a new organization of indigenous people based in Indonesia, met in the capitol to address the national congress airing their views on human rights and the impact of large-scale commercial plantations, logging, mining, and fishing. Over 200 participants from across Indonesia gathered to hold protests and speak to a panel of senior government officials including the Minister of Land Affairs, and high level officials from the Ministry of Forestry and the Department of Social Affairs. A brief summation of their statement was:

*We indigenous peoples are the sector of society that has suffered most from the Indonesian government's development of forestry for over 30 years. Through various pieces of forestry legislation based on the 1967 Basic Forestry Law, the government has unilaterally seized control of tens of millions of hectares of customary forest-lands which have been handed down from generation to generation, owned, controlled and managed by tens of millions of Indonesia's indigenous peoples. It changed the status of these forests from customary lands (hutan adat) to state forests without any discussion with or consent from the relevant indigenous communities. Through corruption, collusion, and nepotism, some of this 'state forest' was divided up to be logged by private timber companies, converted to plantations and industrial timber estates, or cleared by mining companies. This centralized, exploitative pattern of development makes indigenous people its victims.* (Note 8)

The AMAN statement went on to demand that the concept of state forest be eliminated and that new legislation be passed to recognize indigenous peoples' rights over natural resources in their customary lands. While few countries in Southeast Asia are currently prepared to entirely halt logging, abolish state forests, or proceed with comprehensive public land reform and the devolution of management rights to communities, it is clear that pressure for reform is building. Other types of associations and networks are being created throughout Southeast Asia to better represent the views of indigenous peoples, forest user groups, and upland residents during stakeholder dialogues. Some important issues regarding the forest-dependents communities' perspective are highlighted as follows:

- Communities place diverse values on forest environments and are interested in sustaining them for present and future generations.
Communities are concerned over forest degradation, mounting resource pressures, and growing scarcities. The land and forest resources that support their livelihood and agricultural systems are being threatened by outside actors such as logging and mining companies, lowland migrants, government infrastructure development projects, as well as by neighboring communities.

Communities seek to gain greater authority from government over local forest resources. Many communities are discussing how to enhance their tenure security through dialogues within the village and with neighbors. In some cases, communities are forming networks, federations, and other alliances to exchange information and represent their positions to government. Community resource organizations often draw on traditional cultural institutions, though new elements and alliances are also being developed.

Communities are designing more intensive and restrictive rules of resource use in order to protect local forests and watersheds from overexploitation and encroachment. Regulations include prohibiting the sale of land to people from outside the village, banning commercial sale of timber from local forests, tighter burn controls, as well as restrictions on hunting.

Communities are exploring ways to adapt agricultural and forestry related production systems to enhance income generation in ways that are sustainable and maintain the existing environment. This has led to diverse experimentation with agroforestry systems and in-situ forest manipulation for NTFP generation.

**SUMMARY**

The best opportunity to slow deforestation may well rest with the people who reside in the forest, and who are tied to the land by their very existence. With over 1,000 ethno-linguistic groups, Southeast Asia is a rich social mosaic of varied resource management traditions and practices. Communal irrigation associations exist in a diversity of forms, guiding the use of water in efficient and equitable ways. Myriad systems of agroforestry blend hundreds of species of trees, shrubs, climbers, and herbs in ingenious ways to maximize the use of light and space, and optimize productivity. Many swidden systems effectively balance agriculture with the larger forest environment, opening and closing small patches of canopy to create a dynamic landscape that has sustained the forest and its people for generations. In many parts of the Philippines, Indonesia, Laos, Cambodia, Vietnam, Malaysia, Burma, and Thailand, indigenous cultural communities retain effective leaders and active hamlet level institutions that play important roles managing water, land, and forest resources. The case studies presented in the preceding pages exemplify the rich knowledge base and long traditions of forest stewardship, and their current dynamic and adaptive strategies.

Over the last 10 to 15 years, a number of countries have begun designing new policies and programs that recognize the historic rights of indigenous communities, as well as the need of migrants for greater security for the forest upon which they depend. The social forestry pilot projects of the region in the early 1980s gradually evolved into a variety of nationwide projects. By the late 1990s, community-based forest management has become accepted as the primary strategy for uplands development in the Philippines. Vietnam continues to target households in forest stewardship programs. With a rudimentary administrative structure at the local level, planners in Lao PDR recognized that indigenous village governments provided the best option for local forest management, and ratified the Village Forest Law in 1998. In Indonesia, Thailand, and Cambodia, social forestry remains primarily a mix of donor-funded projects which promoters hope will eventually lead to formal government acknowledgement of community forest rights. Throughout the region, a rich body of knowledge is now surfacing regarding effective ways to support community-based forest management through new forest tenure policies, legal mechanisms, community mapping, and the dialogue process.

The supportive actions of NGOs, researchers, development programs, and government pilot projects have been critically important components in regional efforts to re-engage communities in forest management, as documented in the field experiences presented here. While there are no blueprints for involving communities as forest managers, the past ten years community forest management projects has yielded many lessons regarding strategies that facilitate participation and create strong systems of stewardship.

The report of the World Commission on Forests and Sustainable Development (WCFSD) arrived at many of the same conclusions as did this report regarding actions need to engage communities in forest management. (Note 9) The WCFSD recommends that:

- The process of decision making about the disposition of the forest should be opened up to widespread
participation by the most affected including women and indigenous peoples.

- Land and resource tenure arrangements should be reviewed to make them more conducive to conservation.
- Mechanisms need to be created that involve communities in monitoring what goes on in their local area.
- Local communities should be involved in all stages of planning and implementation of forestry projects.
- National and global governance structures need to be created that encourage transparency and redress corrupt practices.

The commission also recommended that policies for protected areas should seek to maintain cultural diversity and support the legal rights of local people to manage and use forests and, at the same time, protect sources of non-wood forest products that provide food, income and a way of life for millions. (Note 10)

As Southeast Asia enters the next century, development agencies and government policy makers will need to incorporate rural communities in their policy decisions as forest stewards, not only for degraded lands, but for rich timber lands and valuable biodiversity as well. Past and continuing resistance to devolving forest management rights and responsibilities to communities is reflected in comments by specialists throughout the Southeast Asia region. Pearmsak Makarabhirom of RECOFTC in Bangkok notes that: "resources to support the development of protected area management systems at present have been given mostly to the government sector, despite the fact that their past and present programs have had limited success." (Note 11) He asks that new strategies be developed that can channel funding directly to forest-dependent communities to allow them to manage protected areas, with minimum government intervention.

While frustrations, concerns, threats, and fears remain, the growing momentum for community forest management is clearly evident. Romeo T. Acosta, head of the Community Based Forest Management Office at the DENR in Manila, reports that with help from USAID's Natural Resources Management Program about 625,000 hectares of upland forests have been allocated to rural people over the past decade, with 9 million hectares targeted over the next twenty-five years. (Note 12) Don Gilmour, past head of IUCN Forest Conservation Program, estimates that some 21 million hectares of degraded forest ecosystems in Vietnam, Laos, and Cambodia are available for rehabilitation, much of it possible through natural regeneration under community protection. He points to the opportunities to build new relationships between governments and local communities that could be mutually beneficial, allowing governments to meet policy goals and communities to have their access and use rights legitimized. (Note 13)

In each country reviewed in this regional profile, steps are being taken to respond to the need for community engagement in forest management. Conclusions drawn from the report that may accelerate this process are as follows:

- Confront the shortcomings of the state forest management paradigm and give serious attention to public land reform on a national scale.
- Initiate a broad-based and transparent dialogue to create a clear vision and strategy for forest management. Until forest and watershed control issues are addressed, and the differing goals for management are clearly articulated and made compatible, many of the forest use strategies of local communities, governments, NGOs, development agencies, and the private sector will remain at odds.
- Develop clear legal frameworks that recognize community resource management institutions and their claim to forestlands.
- Provide governments with structural adjustment loans to repurchase logging concessions and eliminate competing claims of outsiders to forest resources, allowing forest-dependent communities to regain control of critical natural resources.
- Extend financial incentives to governments to reform forest sector policies in ways that respond to the needs of forest-dependent people.
- Provide technical and financial assistance to communities, NGOs, and governments attempting to stabilize forest resources through devolving greater resources rights and responsibilities to community groups.
Support small private sector companies, with long term commitments to communities and local areas, through policies and programs that encourage their investment in sustainable resources production systems.

Encourage NGOs and research institutions to facilitate stakeholder dialogues, conduct research, mediate conflicts, and develop participatory mapping programs and to train communities and government field staff in their use. The public media, NGOs, and research groups need assistance in developing monitoring programs to track forest sector policy reforms and inform the civil society regarding progress in stabilizing the natural environment.

Assist forest-dependent communities to develop watershed associations and federations that allow them to coordinate their activities with neighbors, reach consensus-based agreements, map their management territories, and resolve disputes.

Increasingly the role of communities in management is at the heart of national debates regarding the reform of public forest policies. Strategies to implement national community-based forest management are challenged by the reality that villages are complex social environments, often with multiple factions. Communities are dynamic. Villagers are experimenting with new modes of organizing and managing resources. While cultural traditions can foster group identity and provide continuity, they too are changing and adapting along with the larger society. It is counter productive to romanticize forest-dependent peoples, to exaggerate the capacities of their institutions, leaders, or technologies, and to overestimate their ability to sustain the regions' disappearing forests. But, they are the primary users and custodians of these endangered resources and are indeed endangered themselves. There is a critical need to clearly address the imbalances in forest resource control that have occurred in the past and to re-empower the communities of Southeast Asian as stewards of the region's forests.

Notes


3 Personal communication from Charles Bailey, June 15, 1999

4 Personal communication from Tony La Vina, May 14, 1999


6 Ibid, p.66.


9 World Commission on Forests and Sustainable Development, 1999
10 Ibid, p.25.
11 Personal communication from Pearmsak Makarabhirom, May 1, 1999
12 Personal communication from Romeo T. Acosta, March 23, 1999
13 Personal communication from Don Gilmour, June 30, 1999

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LIST OF ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>AFN</td>
<td>Asia Forest Network</td>
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<tr>
<td>AKF</td>
<td>Aga Khan Foundation</td>
</tr>
<tr>
<td>AMAN</td>
<td>Alliance of Indigenous Peoples of the Archipelago</td>
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<tr>
<td>ASEAN</td>
<td>Association of South East Asian Nations</td>
</tr>
<tr>
<td>CADC</td>
<td>Ancestral Domain Certificate</td>
</tr>
<tr>
<td>CBFM</td>
<td>Community Based Forest Management</td>
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<tr>
<td>CFM</td>
<td>Community Forest Management</td>
</tr>
<tr>
<td>CIFM</td>
<td>Community Involvement in Forest Management</td>
</tr>
<tr>
<td>CIFOR</td>
<td>Center for International Forestry Research</td>
</tr>
<tr>
<td>CONCERN</td>
<td>CONCERN Worldwide</td>
</tr>
<tr>
<td>DANIDA</td>
<td>Danish International Development Agency</td>
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<tr>
<td>DENR</td>
<td>Department of Energy and Natural Resources</td>
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<tr>
<td>DFID</td>
<td>Department for International Development</td>
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<tr>
<td>EDIE</td>
<td>Environmental Development Institute</td>
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<tr>
<td>ESSC</td>
<td>Institute for Environmental Science and Social Change</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agricultural Organization for the United Nations</td>
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<tr>
<td>FF</td>
<td>Ford Foundation</td>
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<tr>
<td>FIPI</td>
<td>Forest Inventory and Planning Institute</td>
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<tr>
<td>GIS</td>
<td>Global Information System</td>
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<tr>
<td>GPS</td>
<td>Global Positioning System</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>GTZ</td>
<td>Deutsche Gesellschaft fuer Technische Zusammenarbeit</td>
</tr>
<tr>
<td>ICRAF</td>
<td>International Center for Agroforestry Research</td>
</tr>
<tr>
<td>IDRC</td>
<td>International Development Research Center</td>
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<tr>
<td>IFF</td>
<td>United Nations Intergovernmental Forum on Forests</td>
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<tr>
<td>IPF</td>
<td>United Nations Intergovernmental Panel on Forests</td>
</tr>
<tr>
<td>IUCN</td>
<td>The World Conservation Union</td>
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<tr>
<td>JIM</td>
<td>Joint Forest Management</td>
</tr>
<tr>
<td>MARD</td>
<td>Ministry of Agriculture and Rural Development</td>
</tr>
<tr>
<td>MCC</td>
<td>Mennonite Central Committee</td>
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<tr>
<td>MOEF</td>
<td>Ministry of Environments and Forests</td>
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<tr>
<td>MOF</td>
<td>Ministry of Forestry</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
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<tr>
<td>NTFP</td>
<td>Non-Timber Forest Products</td>
</tr>
<tr>
<td>PA</td>
<td>Protected Area</td>
</tr>
<tr>
<td>PO</td>
<td>People's Organization</td>
</tr>
<tr>
<td>PWG</td>
<td>Philippine Working Group</td>
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<tr>
<td>RECOFTC</td>
<td>Regional Forestry Training Center</td>
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<tr>
<td>RFD</td>
<td>Royal Forest Department</td>
</tr>
<tr>
<td>SIDA</td>
<td>Swedish International Development Agency</td>
</tr>
<tr>
<td>SRMP</td>
<td>Sustainable Resources Management Project</td>
</tr>
<tr>
<td>TNC</td>
<td>Transnational Corporations</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
</tr>
<tr>
<td>UNV</td>
<td>United Nations Volunteers</td>
</tr>
<tr>
<td>UPLB</td>
<td>University of the Philippines, Los Banos</td>
</tr>
<tr>
<td>US-AID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>WB</td>
<td>World Bank</td>
</tr>
<tr>
<td>WCFSD</td>
<td>World Commission on Forests and Sustainable Development</td>
</tr>
<tr>
<td>WG-CIFM</td>
<td>Working Group on Community Involvement in Forest Management</td>
</tr>
<tr>
<td>WWF</td>
<td>World Wildlife Fund</td>
</tr>
</tbody>
</table>

**GLOSSARY OF TERMS**

- **agroforestry**: Interplanting of farm crops and trees.
- **arboreal**: Tree-dwelling.
- **arboretum**: Place where trees and shrubs are grown for study and display.
- **aseasonal**: Without clear seasons.
- **biodiversity**: Richness of plant and animal species and in ecosystem complexity.
- **biomass**: Amount of living matter in a defined area.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>bund</td>
<td>An earthen embankment constructed to retain water.</td>
</tr>
<tr>
<td>canopy</td>
<td>The whole of a forest from the ground upwards. Some scientists use canopy to mean just the top of the forest.</td>
</tr>
<tr>
<td>catchment</td>
<td>A river basin, sometimes referring only to its upper part.</td>
</tr>
<tr>
<td>clear felling</td>
<td>Complete clearance of a forest, as opposed to selective fellings.</td>
</tr>
<tr>
<td>climax</td>
<td>The final stage in the natural succession reached by a community of organisms, especially plants, in equilibrium with existing environmental conditions.</td>
</tr>
<tr>
<td>closed canopy</td>
<td>Canopy which is effectively complete, rather than consisting of scattered trees; in practice, canopy cover 40% or more.</td>
</tr>
<tr>
<td>forest corridors</td>
<td>Strips or belts of forest running through forested land, joining larger forest blocks.</td>
</tr>
<tr>
<td>dipterocarp</td>
<td>Member of the Dipterocarpaceae, a family of old-world tropical trees valuable for timber and resin.</td>
</tr>
<tr>
<td>ecosystem</td>
<td>A natural unit consisting of organisms and their environment.</td>
</tr>
<tr>
<td>endemic</td>
<td>Native or confined to a particular area.</td>
</tr>
<tr>
<td>escarpment</td>
<td>Long cliff or slope separating two more or less level slopes, resulting from erosion or faults.</td>
</tr>
<tr>
<td>fauna</td>
<td>Wildlife in a particular area or time.</td>
</tr>
<tr>
<td>felling cycle</td>
<td>Time period between successive forest harvests.</td>
</tr>
<tr>
<td>fire climax</td>
<td>Regions of plant life, e.g. forests, grassland, where fire plays an important role in suppressing some plants and encouraging the growth of others.</td>
</tr>
<tr>
<td>forest-dependent people</td>
<td>Rural people who use forests for domestic purposes and as an integral part of their farming system.</td>
</tr>
<tr>
<td>flora</td>
<td>Wild plant life in a particular area or time.</td>
</tr>
<tr>
<td>Floristics</td>
<td>The plant species composition of an ecosystem.</td>
</tr>
<tr>
<td>hardwood</td>
<td>Wood of a flowering plant, technically recognized by its possession (with rare exceptions) of vessels. Hardwoods range form hard and dense (e.g. Lignum vitae) to soft (e.g. balsa).</td>
</tr>
<tr>
<td>hectare</td>
<td>A metric unit of area measurement equal to 2.47 acres.</td>
</tr>
<tr>
<td>imperata cylindrica</td>
<td>Aggressive stoloniferous creeping grass which forms fire climax vegetation after forest destruction.</td>
</tr>
<tr>
<td>mangrove</td>
<td>Forests that grow in shallow water near the shore. They have spidery roots that hold sediments in place while providing and important habitat for fish.</td>
</tr>
<tr>
<td>Maleasia</td>
<td>The phytogeographical region that stretches south peninsular Thailand, throughout the Malay archipelago to northwest New Guinea.</td>
</tr>
<tr>
<td>mast fruiting</td>
<td>A seasonal accumulation of fruit or nuts on the forest floor.</td>
</tr>
<tr>
<td>monoculture</td>
<td>Cultivation of a single crop.</td>
</tr>
<tr>
<td>monsoon forest</td>
<td>Closed canopy forests in seasonal tropical climates.</td>
</tr>
<tr>
<td>montane forest</td>
<td>Forests that grow in mountainous areas.</td>
</tr>
<tr>
<td>NTFP</td>
<td>Non-timber forest product.</td>
</tr>
<tr>
<td>old-growth forest</td>
<td>See PRISTINE FOREST.</td>
</tr>
<tr>
<td>outsiders</td>
<td>A term used by communities to describe people that are not part of their geographical or cultural group.</td>
</tr>
<tr>
<td>perhumid</td>
<td>Permanently humid climate with no dry season.</td>
</tr>
<tr>
<td>primary forest</td>
<td>See PRISTINE FOREST.</td>
</tr>
<tr>
<td>pristine forest</td>
<td>Forest in a primary, virgin or undisturbed state.</td>
</tr>
<tr>
<td>production forest</td>
<td>Forest designated for the production of goods, usually timber.</td>
</tr>
<tr>
<td>rain forest</td>
<td>Closed canopy forests in aseasonal climates; may be found in tropical and temperate latitudes.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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</tr>
<tr>
<td>rattan</td>
<td>A climbing palm of the sub family Calamoideae of great economic importance in Southeast Asia.</td>
</tr>
<tr>
<td>refugium</td>
<td>Region where biological communities have remained relatively undisturbed over long periods.</td>
</tr>
<tr>
<td>residual stand</td>
<td>The number of trees left standing after logging.</td>
</tr>
<tr>
<td>riparian</td>
<td>Land bordering water.</td>
</tr>
<tr>
<td>rotation</td>
<td>Length of time needed for a stand of commercial timber trees to reach a suitable felling size.</td>
</tr>
<tr>
<td>sawlogs</td>
<td>Logs which are to be sawn lengthwise for the manufacture of sawnwood.</td>
</tr>
<tr>
<td>secondary forest</td>
<td>Forest containing fast-growing trees which flourish after disturbance.</td>
</tr>
<tr>
<td>shifting cultivation</td>
<td>System of agriculture that depends on clearing and burning an area of forest for farming over a temporary period.</td>
</tr>
<tr>
<td>silviculture</td>
<td>The cultivation and management of forests and woodland.</td>
</tr>
<tr>
<td>slash and burn</td>
<td>See SHIFTING CULTIVATION.</td>
</tr>
<tr>
<td>Storey</td>
<td>Layer or stratum of a forest.</td>
</tr>
<tr>
<td>swamp forests</td>
<td>Forests that exist in areas with water-saturated soils.</td>
</tr>
<tr>
<td>swidden agriculture</td>
<td>Shifting agriculture carried out in the traditional, sustainable way, i.e. with periods of fallow to restore soil fertility.</td>
</tr>
<tr>
<td>ungulate</td>
<td>A hoofed mammal.</td>
</tr>
<tr>
<td>usufruct</td>
<td>The legal right to use and enjoy the benefits and profits of something belonging to another.</td>
</tr>
<tr>
<td>virgin forest</td>
<td>See PRISTINE FOREST.</td>
</tr>
<tr>
<td>woodland</td>
<td>Woody vegetation formations with scattered trees, generally with less than 40% crown cover. Also known as open forests.</td>
</tr>
</tbody>
</table>